THE CHICAGO

MEDICAL JOURNAL AND EXAMINER.

VOL. LIII. NOVEMBER, 1886. No. 5.

ORIGINAL COMMUNICATIONS.

A CASE OF INJURY FROM A STRONG ELECTRIC CURRENT.

By HAROLD N. MOYER, M.D., *Assistant to the Chair for Diseases of the Nervous System and Lecturer on Physiology, Rush Medical College.*

The rarity of injury occasioned by the passage of strong electric currents through the body, and the silence of the standard text-books on surgery regarding this class of injuries, shall be my excuse for presenting what would otherwise seem to be a case of little interest. With the widening of the application of electric currents in the mechanical arts, and electric lighting, must come an increase in the number of these accidents, and a corresponding interest in their surgical and medico-legal relations. I do not remember to have seen a single case reported in which an injury of this kind has been made the subject of a legal inquiry, but, with the increased exposure to violence of this kind, it must soon be recognized, and we shall doubtless shortly have a special department of "electric surgery," similar in many respects to the "railroad surgery" of today.

On the evening of August 5th last I was called to see S. C., a laborer, well developed, muscular, and of a healthy, robust appearance. I found him lying in bed bathed in a cold perspiration. His skin was pale and of a leaden, ashy hue. The pupils were widely dilated and reacted but feebly to light. He was partially delirious, though when pressed to do so he would give fairly rational answers to questions. His pulse was about 100, feeble, and slightly irregular. The heart sounds were normal, though its action was somewhat hurried and irregular. His temperature was 97½° F. Nausea and vomiting were constant; everything taken into the stomach was immediately rejected. On the outer aspect of the knee, about one inch from the patella, was found an oval opening three-fourths of an inch long and one-half an inch wide, extending below the deep fascia. The opening had sharply defined edges which were not everted. The opening showed an actual loss of substance, as though made with a punch. There was very little hæmorrhage at that time, and it was stated that there had been but little. On the posterior aspect of the thigh, in the middle line, just above the popliteal space, a round, button-like eschar, about one-half an inch in diameter, was found. The eschar was of a blackish-brown color, and seemed to involve only the skin, and to be freely movable on the tissues beneath. Careful examination failed to reveal any displacement of the bones or ligaments, but I was unable to assure myself that the synovial membrane of the joint was not involved in the solution of continuity. The possible gravity of this wound of the knee induced me to send the patient to the Cook County Hospital, after having applied a temporary dressing. This course was necessary, from the fact the patient lived in lodgings, and had no one to attend to his wants. At the hospital the wound healed kindly, and in a few days he was

again on the street. The eschar on the posterior aspect of the thigh separated, leaving a deep fistulous track extending forwards and downwards, which at the end of five weeks had not yet healed, and long after all other evidence of injury had disappeared.

It was after the patient left the hospital that I obtained full particulars of the manner in which the accident occurred. He was engaged in adjusting one of the arc lights of a thirty-light circuit of the Van De Pœle system. At the time he was standing on a step-ladder a few feet above the sidewalk, his foot slipped, and in attempting to save himself he grasped both of the side wires of the lamp. For an instant at least a portion of the current passed through his body. It is hardly conceivable that a current of this intensity could pass through the body without causing instant death, and I am of the opinion that a portion at least must have still passed through the lamp. In falling his knee came in contact with an iron railing, and the current was grounded. As he expressed it, "the fire flew from my knee to the rail." The injuries above described were directly due to the passage of the current from the leg to the rail. The chief difficulty experienced in this case was in forming an adequate idea of the extent of the injury and its probable outcome. One of the singular features of the case, and one which I would not *a priori* believe, is that a current of sufficient intensity to produce such extensive local injury could pass through the body without causing instant death. I think a report of a case was given in the *British Medical Journal* some three years ago, of a similar "grounding" of a current which caused instant death, and that the local injury in that case amounted to only a slight charring of the outer aspect of the little finger.

434 West Adams Street.

ABSTRACT OF A REPORT MADE OF A VISIT TO THE HOSPITALS OF PARIS AND PASTEUR'S LABORATORY. *By* CHARLES WARRINGTON EARLE, M.D.

[Read before the Chicago Medical Society, October 4, 1886.]

After my arrival in Paris, the Hospital Lariboisière was among the first that I visited. It is a large structure, containing 875 beds, and is situated in the northeastern part of the city. It was constructed in 1854, entirely of stone and brick. It has several pavilions and squares as well as gardens and chapels within its walls. The building is of historic interest in many respects, and still bears the scars of German cannon balls received during the late war. The obstetrical department is divided into an inside and outside service, with about thirty-five hundred confinements in both. Midwives do the work on the outside, and send for the hospital staff if assistance is needed. The severe cases needing operation are brought into the hospital and kept there until they have recovered. Every morning a large number of patients are brought in by the midwives to be examined by the resident physicians; if any complication is found, they are retained in the hospital. The wards are kept aseptic in every respect. Carbolic acid is distributed in dishes, and in many cases a spray of the same substance is used. The beds are all of iron, and are washed thoroughly from time to time with a solution of corrosive sublimate. The floors are of a stone and plaster composition, and the walls are roughly finished with not the faintest attempt at ornamentation. The antiseptic precautions are not equal to those taken in the hospitals of Germany and Italy, but they are in advance of those in England.

The favorite antiseptic is the biniodide of mercury in a strength of one part to two thousand of water. Pinard is the obstetrician, and his methods are peculiarly French. They dislike to use any method or instrument devised by a German. Tarnier's forceps, with certain recent modifications, by which they can be more easily rendered aseptic, are used, and the basotribe, a combination of the perforator and cranioclast has recently been added. When a diagnosis of breech presentation can be made early, before the escape of the amniotic fluid, version is performed. The general result of this treatment has not as yet been announced. I am, however, in possession of some facts which would make it appear that it is not the best procedure. In cases of contracted pelvis, labor is induced between the sixth and seventh months, and the prematurely delivered child is placed in the incubator, its life being saved as a rule. In Germany, Austria, and probably Italy, these cases would have some form of abdominal section performed upon them. The contrivances for keeping up the body-heat of prematurely born infants were very interesting to me. I did not see Credé's apparatus, which consists of a copper tube with double walls so arranged that hot water can be introduced, and a high temperature maintained, but I did see Tarnier's incubators in operation. The principle upon which they are constructed is very simple, and it seems to me that we should be in position to utilize it. They consist of a square box, so made as to prevent the loss of heat, the top of which is covered with glass. In the upper half is placed a thermometer and a little basket of soft clothing for the child. Under the basket is an arrangement for the introduction of hot air, which may be supplied either

from the heating apparatus of the building, a gas jet, or hot water in bottles. For the youngest children the temperature is kept from 100° to 105° F.; for those between seven and eight months from 85° to 100° F. Where possible, the children are always fed with breast-milk and are not handled or exposed more than is absolutely necessary. A sloughing uterine tumor or other case in which blood-poisoning may happen, is treated by constant irrigation; water, either pure or slightly medicated, is passed into the cavity for days and often weeks, thus effectually washing away all putrid matter and guarding against infection.

I was shown an instrument recently devised by Tarnier for inducing labour. It was an ordinary catheter upon the end of which was a little bulb with exceedingly thin walls. The instrument is introduced into the cavity of the uterus, the bulb distended with water and allowed to remain until uterine action begins.

The Maison de Accouchements is Tarnier's own hospital. Formerly it was a Catholic institution, and as far as the building is concerned it is not at all in accord with recent ideas of what a hospital should be. Everything possible, however, is done to make the place aseptic. Every bed is isolated in some degree, and furnished with its own irrigator, the permanganate of potash being the drug used. Carbolic acid is sprayed in the wards at all times. The bedsteads and chairs are all iron. The floor is of stone, and the ventilation is by means of fireplaces. Tarnier has just completed a small ward from plans of his own which, in all probability, is the most non-absorbing building which has ever been erected. It is made of brick and mortar and stone, the roof of the porches is made of glass, the window-frames are all iron, and as far as

I could see not a particle of wood entered into the construction of the building. It is only 24x45 feet, and so arranged that one attendant upon each floor can look into the four wards from a shaft which is constructed in the center. This is to economize help and give to each patient constant watchfulness and care.

The Hospital Bichât is situated directly upon the fortifications. It was built for barracks, and has only recently been converted into a hospital. Terrier is the surgeon. The building is of stone with a perfectly hard and non-absorbing material for floors. The carbolic acid spray is used, and a very great amount of it is used in each surgical dressing. Operations for hernia seem to be a kind of specialty here, though many laparotomies are performed. It is in this hospital that Pean extirpates the uterus, sometimes without the use of a single ligature. He has had constructed for him, long hæmostatic forceps with different shapes and curves, and if an artery is cut high up, which it would be difficult to ligate, it is at once seized with one of these forceps, the instrument left in place for one or two days, when it sloughs away.

The Hospital Tenon is another institution which I visited. It is very large, is kept scrupulously clean and has an obliging staff of attendants who delight in showing one over the building.

Among those who are doing good work in Paris I should mention Apostoli, who is experimenting with electricity. He is an enthusiast, and, perhaps, claims too much for his process sometimes, but he is withal very modest. He read a paper before the Copenhagen Congress which was well received, and since then he has been quietly prosecuting his researches. He treats particularly uterine fibroids and believes

that, by using his zinc disc covered with a layer of sculptor's clay, he gets a degree of intensity in his current that gives better results than by any other means. The power of his current is simply immense, and those who have watched him treat his cases and seen the results, claim that he really accomplishes nearly every thing which he claims. Not only does he treat fibroids, lessening hæmorrhage and diminishing the growth, but exudations, etc. He is confident that by his process those conditions from hæmorrhage, etc., for which it is believed, on the Continent, that the uterus should be extirpated, can be cured, and the operation which certainly in our country is not regarded with special favor, can be avoided.

I could not leave Paris without visiting Pasteur's laboratory. During the forenoon I had the opportunity of seeing a large number of people inoculated with the virus, and in the afternoon I was permitted to visit his laboratory and witness the entire process, from chloroforming and inoculating a rabbit, up to the time one perished with all the symptoms of hydrophobia. His dispensary was hardly what I expected to find, as it was smaller than the number of patients demanded. There was not the care taken in preserving the histories of cases which the importance of the work merits, but it is possible that this was attended to in the earlier days of the experiments. Pasteur is here during the forenoon, but does very little except exercise a general supervision over the entire work. There are three rooms in which this is performed, one a large waiting room, another a kind of surgery where dog bites are dressed, and a third room where the inoculations are being carried on. About a hundred each day were being inoculated at the time of my visit,

and they were there from almost every inhabitable country upon the globe.

A very brief history of Pasteur's experiments from 1880 up to the present time may not at this time be amiss. Since that time the interest in the subject of hydrophobia has been greatly increased and its study diligently pursued. Many have been the investigations to find the nature of this subtle poison, but probably no one has exhibited the patience and had the means to prosecute his studies equal to Pasteur. He had achieved great renown and placed the world, and particularly his own country, greatly his debtor by his discoveries concerning the diseases of the silk-worm. His conclusions in regard to anthrax and chicken-cholera had also been given to the public, and he seemed to be the man to undertake the investigation of hydrophobia. In 1880 a child died of hydrophobia in the Trousseau hospital, in Paris. Four hours after its death the mucus about the palate was collected and two rabbits were inoculated with it. They died in thirty-six hours, and the saliva from these rabbits produced hydrophobia in others of their kind. It seemed then as if the discovery had already been made that the poisonous element of hydrophobia was in the saliva and nowhere else, but Pasteur proceeded further and examined the saliva with the microscope, and in every case he found a special microbe. He undoubtedly believed at this time that he had found what would in every case produce hydrophobia, but others continued to examine the saliva, and, while the microbe of saliva from hydrophobic patients was easily cultivated, and when injected into rabbits caused disease varying with the quantity injected, it was also found that healthy saliva when injected into the veins also

produced symptoms closely resembling hydrophobia. At this time I think the theory of a special microbe was dropped. But the work went on until 1884, and experimenters tried to find whether the poison was in the saliva or the blood, or in the central nervous system, when Pasteur read his paper before the Copenhagen Congress, and stated that it was in the medulla in which the disease is found most concentrated, and since then the virus for commencing the process is taken from this point.

The entire procedure as it is here practiced has been gone over time after time, and is as follows: Take the medulla from a dog which has died of rabies, crush it and put it in sterilized bouillon with all antiseptic precautions, and you are ready to make the first injection into the brain of a rabbit. A rabbit is placed upon the operating table, is chloroformed, the top of its head shaved, an incision made through the integuments, with all antiseptic precautions, the bone trepanned and about two drops of virus is injected under the membranes of the brain. In nine days this rabbit commences to be sick, is paralyzed in its legs, and in thirteen days dies. Rabbits do not seem to suffer at all, and the wounds which are made to inoculate them usually heal in about twenty-four to thirty-six hours. From this rabbit's medulla you inoculate another. This rabbit commences to be sick in fifteen days and dies in eighteen, until finally after nine or ten inoculations the incubation period becomes constant at about eight or nine days, but the virus becomes much stronger than it was when taken from the dog who first died from rabies. That is to say, the virus is so strong that the initial symptoms of hydrophobia commence in about seven days in place of from twenty to forty days as they do when a person is bitten by a mad dog. This, then, is the first principle. Pasteur

believes he has demonstrated that the further removing of the virus in a rabbit the stronger it becomes. The medulla from these last rabbits in which the virus is so strong is now taken out, hung in an empty jar, the bottom of which is covered with caustic potash. It is here allowed to remain for twenty days. A little piece of this cord is put into sterilized veal broth and rubbed up, and from one to two drops injected into the rabbit. The second injection is made in the same way, only the medulla is allowed to remain in the jar two days less. The third injection is made after the medulla has been allowed to remain in the jar two days less than the third, and so on for eight or ten injections, when it is believed that the virus which has been introduced into the system by a rabid dog has been neutralized and immunity insured. The second principle which has been demonstrated is, that if the virus be allowed to remain in a glass jar, suspended over caustic potash, for twenty days, it may be injected with impunity into the muscles of human beings, and that the virus when suspended two days shorter time is a little stronger and less poisonous to the individual. In the main what Pasteur tries to demonstrate is that by carrying on a series of successive inoculations he simply renders the poison of hydrophobia inert in the individual. He does not attempt to cure the disease after symptoms have commenced their development. At the time of my visit he had inoculated eighteen hundred people, and there had been subscribed to his institute more than $270,000.

If I am asked what the majority of scientific people on the continent think in regard to Pasteur and his cure for hydrophobia, I should say that the majority of those replying would say, "We are waiting." It is not believed by many that the problem is solved. They have, however, great confidence in

Pasteur, and believe that at the proper time he will announce the truth.

A commission has been appointed from Great Britain to investigate and report, and pending this we must all wait. There is, however, an intense interest in the subject in most of the countries of the old world, and there are those who expect that either by this process, or some other, hydrophobia will become a disease of the past.

There are men in training today who will examine the feasibility of vaccinating or inoculating every dog within certain boundaries, in the hope that immunity from the disease will be established in these animals, and the constant danger to man avoided.

535 Washington Boulevard.

ABSTRACT OF A REPORT OF A CASE OF CARIES OF THE RIGHT PARIETAL BONE, CAUSED BY A RAILWAY INJURY.

By AUGUSTUS V. PARK, M.D., *Chicago, Member of the American Medical Association, etc.*

[Read before the Chicago Medical Society September 6.]

The case I have to present this evening is that of Edward M., aged 16 years, of medium height, stout, healthy and well nourished, by occupation a book-keeper. The family history on the father's side is good; the mother is now in the insane asylum at Jefferson. On the evening of September 18, 1883, while riding home from work, he attempted to cross the railroad track at the Twenty-sixth street crossing, but was compelled to wait until a long out-going freight train had passed. He then started to drive across the track, and at this moment his horse was struck and killed, instantly, by an incoming express train which was running at a high rate of speed, over the Grand Trunk Railway's tracks. The young man was

found one hundred feet down the track, and north and east of where the horse was killed. He was carried from the place to a little cottage near the track, and I saw him in a few minutes. I found him unconscious, with pupils widely dilated, the pulse hardly perceptible, feeble and intermittent, breathing slow, and drawn at intervals. The features were ghastly and the face cold and pale. I examined the more extensive wounds and controlled the hæmorrhage. He was removed to his home, at Twenty-fifth street and Prairie avenue. There I made a careful and very thorough examination. His clothing, which was torn in shreds, was removed, and the following wounds were found: A contused and lacerated wound three inches wide on the back, two inches to the right of spinal column, and extending from the posterior superior spine of the ilium upward to the spinous process of the seventh dorsal vertebra. Lacerated and contused wounds were found above and below each elbow, and a large contusion on the left gluteal muscle. There was injury to the coccyx, causing long and continued coccygodynia, and the lower extremities were bruised in many places. A contusion existed on the right side of the forehead, extending from the orbital arch upward three inches. There was a V-shaped wound over the left ear, and, also, a large semi-circular wound on the top of the head, nearly in the centre of the right parietal bone. This wound, as well as the one over the left ear, extended through the scalp, the pericranium being stripped off in places. The wounds about the head and face were filled with sand and dirt. The scalp-wound was thoroughly cleansed, and the cranial wall carefully examined for fracture. The edges were then approximated as nearly as possible and closed with interrupted silk sutures. All the other wounds were cleansed and dressed with iodoform and carbolized cosmoline. The pupils of both eyes continued widely dilated, the left larger than

the right. There was no vomiting or hæmorrhage from mouth or nose or ears. The shock was so great that it resembled collapse.

Twelve hours after the accident I found the patient still unconscious; his temperature was 100° F., pulse 90, respiration 20. The wounds were all redressed. The tissues about the head and face were œdematous and the eye-lids puffy and closed.

Twenty-nine hours after the accident, his temperature was 102° F., pulse 112, respiration 20, and his face and scalp were becoming more and more œdematous. The patient was semi-unconscious, restless, and passed his urine voluntarily. I gave a hydragogue cathartic and quinine in three grain doses combined with iron. A lotion of the acetate of lead was used externally.

Forty-four hours after the accident, his temperature was 103.50° F., his pulse 120, and his respiration 20 to 22. He was delirious, and the condition of the face and scalp was unchanged. The wounds about his head and face were secreting but slightly.

Professor Daniel T. Nelson, their family physician, saw the boy in consultation with me and made a careful examination of the wounds of the head, and particularly the cut above the left ear and the one on the top of the head. He could not detect a fracture, or depression of the cranial wall, and advised that drainage-tubes be introduced. This was done and the dressings were re-applied as before. The quinine and iron were continued and the lotion applied externally as before.

The railway company's surgeon saw the boy with me and was permitted to examine the wounds for fracture, but with

negative results. As regards treatment, he had nothing to suggest. The face and scalp became more and more œdematous ; the lips, nose and ears were greatly enlarged ; the eyes entirely closed, and the face of a light purple color.

The symptoms subjectively and objectively at this time, and for the next fourteen days, remained nearly the same. I will state, however, that the highest temperature observed was 103.8° F. There was but slight discharge through the drainage-tubes for two or three days, and they were removed on the fourth day after insertion. When the boy commenced to regain consciousness memory was greatly impaired and he could not distinguish one person from another.

On October 4, seventeen days after injury, his temperature was 99° F., his pulse 90, and respiration 18, the œdematous condition of the face was subsiding, the ecchymosis fading away and patient, by making an effort, could partially open the eyes. He complained of pain on the top of his head, and the dressings were removed and the wound examined. Several small pockets of pus were found. They were broken down with a probe and the wound washed with a two per centum carbolized solution and dressings applied as usual; all the other wounds had commenced to close by granulation.

On November 26, seventy days after the accident, I detected and detached a piece of exfoliated bone, the entire thickness of the external plate, and the size of a three cent piece. This piece of bone was removed through a fistulous canal which led down to it. The dressings were applied twice daily, yet the wound refused to close up as all the others had done, and denuded bone could be felt with the probe. I ad-

vised an immediate operation for the removal of more of the dead bone if present. To this his father would not consent, owing to the danger of erysipelas attacking the patient after the operation.

On December 17, ninety-two days from the day of the injury, at my request, Professor Daniel T. Nelson again saw the patient with me, and we decided to operate. At three o'clock P.M., the patient was brought to my office. I was assisted by Professors Daniel T. Nelson and R. W. Bishop. Mr. Hugo von Hermonn, Mr. Shoeneman, Mr. Meyer were present. A grooved director was inserted into the fistulous canal, and carried down to the cranial wall and the scalp slit up. This incision was then lengthened by a free cut, two inches down to the diseased bone, and the scalp and pericranium, which were thickened and hypertrophied, were drawn apart. Hæmorrhage was free, owing to the great vascularity of the part. The cranial wall was found in a carious condition over a much larger area than we expected to find. I was compelled to enlarge the incision in each direction before all of the diseased bone could be reached. This condition extended through the external table and I removed with a curette the diseased bony tissue down to the diploe, over an oval shaped area two inches and a half in width by three and a half in length. The hæmorrhage from the diploic veins was not great.

On December 18, at eight o'clock A.M., his temperature was 101° F., his pulse 90, and respiration 18. The patient complained of severe pain in the back and sides of the neck and of headache, and there was slight evidence of approaching facial erysipelas. The dressings were removed and the discharge was free and the drainage as complete as could be desired.

On December 19, his temperature was 103° F., his pulse

110, and respiration 22. He still complained of severe pain in his head and neck, with a burning sensation over the entire face and scalp. His eyelids were again closed and puffy. On removal of the dressings a partial suspension of the secretion from the wound, and a complete arrest of the adhesive process were found. Medication for the erysipelatous complication was continued.

On December 21, at eight o'clock A. M., his temperature was 100° F., his pulse 90, and respiration 18. The patient seemed to be improving in every way. His face and scalp were less œdematous, and the wound had commenced to slough to such an extent that some of the stitches were washed away with the carbolized solution. We now had a gaping wound an inch in width by four inches in length, which was cleansed, and its edges approximated as nearly as possible and held in position by compresses and bandages.

On December 25, the patient was without fever or pain. His pulse and respiration were normal. The wound was secreting healthy pus and the granulations had a healthy appearance, and the patient was taken to his home.

On February 4, one hundred and fifty-one days after the accident and forty-nine days following the removal of carious bone, the patient was discharged and the result obtained is quite as good as could reasonably be expected. Much was accomplished in this case in preventing a large and unsightly cicatrix by keeping up a series of carefully applied bandages and compresses. None of the compresses were applied directly over the wound, but in such a manner as would approximate the granulating edges.

411 Twenty-sixth Street.

NOTES ON HOSPITAL PRACTICE IN VIENNA. *Abstract of a paper by* FRANK BILLINGS, M.D., *Lecturer on Physical Diagnosis in the Chicago Medical College.*

[Read before the Chicago Medical Society, October 18, 1886.]

In the medical wards of Professor Nothnagel, the temperature of important cases is taken every two hours by the nurse, by placing a non self-registering thermometer of the centigrade scale in the axilla for five minutes. From the temperature markings charts are made and kept at the heads of the beds.

Examination, chemical and microscopical, of the urine is made of all cases upon admission to the hospital, and daily examination of important cases.

The tests used are the following:

For albumen: the heat test, and the acetic acid and ferrocyanide of potassium test.

For peptone: sulphate of copper and hydrate of potassium (as in Trommer's test for sugar), giving a violet color if peptone is present. Albumen must be proven to be *absent* by the above two tests before making the test for peptone, for albumen gives the same reaction to the peptone test.

For blood: the addition of potassium hydrate and heating precipitates phosphates, which are colored red or reddish when blood is present. Microscopic and spectroscopic examinations are also made in doubtful cases.

For bile: hydrochloric acid and hydrate of potassium are added to urine, in about equal amounts, giving a green color to the whole mixture when bile is present.

The well-known nitric acid test is also used.

For indican: to urine is added a small amount of hydrochloric acid, one drop of a five per centum solution of hypo-

sulphite of lime and a small amount of chloroform; the test-tube is then shaken and the chloroform allowed to settle to the bottom of the tube. When indican is present the chloroform will have a blue or bluish tint. The presence of iodides in urine of a patient undergoing treatment with iodine or iodides will give a violet or reddish tint to the chloroform, in the above test.

For sugar: Moore's, or Trommer's tests are used. In doubtful cases the Fischer-Jaksch test is employed. It consists in dissolving phenyl hydrocene (a chlor-hydrate of phenyl) gram 1, sodium acetate gram .750 in water 10 c. c. in a test-tube by warming and adding about 25 c. c. of the suspected urine. The mixture is evaporated to one-half its bulk over a water or sand bath, and a precipitate occurs if sugar be present. Microscopically, this precipitate is seen to be composed of yellowish or yellowish-brown, acicular crystals, arranged in fan-shaped forms. It will detect gram .001 of sugar in 1000 c. c. of urine, *i. e.*, one millionth of one per centum.

The presence of aceto-acetic acid, *Diacetone*, is considered of great importance in prognosis of continued fevers, eruptive fevers, diabetes mellitus, and pyæmia or septicæmia.

To prove the presence of aceto-acetic acid it is necessary to first find acetone in the urine,—a body always present in high fevers, according to Dr. von Jaksch.

To find acetone, add to the urine a sufficient amount of sodium nitro-prusside to give a Bordeaux color; then add strong acetic acid, drop by drop, which gives darker rings, where the acid comes in contact with the fluid, if acetone be present.

Or, distill the urine; add a small amount of iodine, iodide of

potassium and hydrate of potassium; heat, and a precipitate, or odor of iodoform will occur if acetone be present, Having proven acetone to be present, add to the urine the tincture of the chloride of iron. This gives a violet color if diacetone be present. This color disappears upon the application of heat, or upon standing for twenty-four hours. The presence of salicylates in the urine gives the same color upon addition of tincture of iron, but the color does not disappear upon heating the urine, or in twenty-four hours.

Diacetonurea indicates a grave or guarded prognosis.

Tuberculosis in some form is very common in Vienna. Tubercular lesions are found in nearly seventy per centum of the deaths! It masks and complicates other diseases and occurs so frequently that it is called *Mortuis Vienensis.* In cases where physical signs are insufficient to arrive at a diagnosis, the presence of tubercular bacilli in the sputa, urine, feces or discharge from a wound, is taken as positive evidence of tuberculosis.

Until 1878 or '79, Vienna secured water from the Danube. Since that time the water is brought by aqueduct from mountain springs about eighty miles away. Typhoid fever was endemic and at times epidemic when Danube water was used. Dr. Jaksch is authority for the statement that not one case of typhoid fever has developed within the city since the new water supply was completed.

A few cases of typhoid fever, brought from the surrounding country, are to be seen in the wards.

The treatment of typhoid fever is expectant. Cold baths of 75° to 80° F., and when this is not sufficient as an antipyretic, an occasional dose of quinia, antipyrin or thallin is used.

During the stage of *lysis* the same medical antipyretics are used more continuously to make the fever abate more rapidly.

Acute articular rheumatism is treated by the administration of salicylic acid gram. 10 to 24 in the first twenty-four hours; half that quantity daily for the next three or four days, and then gradually diminishing doses. Salicylate intoxication occasionally occurs, manifested by delirium and erythema of the skin.

Large doses of benzoate of sodium; gram. 20 to 30, even gram. 60, daily, are also used in rheumatism. Lobar pneumonia receives no antipyretic treatment whatever,—and often no other treatment. Alcohol is given freely to sustain the heart when necessary, and wet-cupping or leeching over the affected lobe for *pain*. Wet-cupping or leeching is often practiced for an anodyne effect in local inflammation,—perityphlitis pleurisy, loc al peritonitis. Urethan is used as a hypnotic in place of chloral, or morphine. In cases of enfeebled and irregular heart-action due to valvular disease, myocarditis, etc., nitro-glycerine in doses of gram .001 every four hours, or caffeine citrate or salicylate gram 1.0 daily, are used.

In cases of dyspepsia from weak or irregular heart-action, due to valvular disease, adhesive pericarditis, etc.; with chronic venous congestion of liver and kidneys, scanty urine, and general dropsy, as a result, small and frequently repeated doses of calomel are given to increase the amount of urine.

In the obstetrical wards of Professor Carl Braun one large room is used for delivering patients. Each student or physician practicing in the ward is allowed to touch but one patient until her labour is completed. The hands of those practicing in the ward are rendered aseptic, by a thorough washing and brushing, and then immersed in a one per centum solution of permanganate of potassium; they are rendered still more aseptic and bleached by an immersion in a ten per centum solution of hydrochloric acid.

Multipara, in normal labour, are allowed to assume any position they choose in the second stage, and but little care is taken to support the perineum.

Primipara are placed upon the left side, and the perineum is carefully supported by the well-known German method.

In normal cases vaginal douches of two per centum watery solution of carbolic acid or corrosive sublimate, 1 part to 4,000 of water, are used immediately after labour and daily thereafter until discharged.

In all cases where the hand or instruments are inserted into the uterus and in cervical or perineal lacerations, after closing the rents an intra-uterine douche of one of the above named solutions is given immediately, but is not repeated unless fever, or offensive lochia occur; a daily vaginal douche only being given. Puerperal convulsions are treated by immersion in hot bath for a variable length of time; rectal injections of chloral gram 1.0 are given, and repeated after each convulsion, and also hypodermic injection of morphine. As a rule no attempt is made to bring on labour by artificial dilatation of the os uteri. I saw one case treated as above; labour occurred in twenty-four hours, resulting favorably to the mother and child.

Abortion is treated upon the principle of non-interference. Rest in bed is enjoined until the embryo presents itself in the cervical canal, when it is enucleated by inserting a Ferguson's speculum; the cervix being received within the proximal end of the speculum, then by upward pressure upon the speculum and counter-pressure upon the fundus uteri from the hypogastrium the ovum is forced into the speculum intact. If hæmorrhage occur a colpeurynter is inserted, and ergot is sometimes given. If the embryo is discharged and the placenta remain no interference is practiced for three or four

days—until partial separation by fatty degeneration has occurred—when it is partially or wholly removed by enucleation as described above, or by the finger or forceps. If sepsis and fever call for interference, the placenta is wholly or partially removed by forceps and the finger and intra-uterine douches given.

Four cases of corrosive sublimate poisoning occurred last year: two each in the wards of Professors Carl and Gustavus Braun. The solution used was 1 part to 4,000 of water. All died with symptoms of inflammation throughout the whole alimentary tract. The autopsies revealed ulceration throughout the upper portion of the tract, with blackened, necrosed mucous membrane, almost gangrenous in the colon and rectum.

In the surgical wards of Professors Billroth and Albert the smallest details of cleanliness are scrupulously practiced. The operating-room of Professor Billroth is aired and cleaned daily. The floor is so constructed that all liquids flow to the center of the room and pass away through a grating. The floor is scrubbed and douched thoroughly every day. Two reservoirs are placed high on the wall, containing a one per centum solution of carbolic acid, and a rubber tube attached to it carries the solution to any part of the arena for irrigating wounds. The operator as well as assistants and nurses are clothed in fresh linen, and having a long ulster of linen worn outside. Their hands are thoroughly brushed and washed in a one per centum solution of carbolic acid. The patient is prepared by a bath and fresh clothing. The part to be operated upon is thoroughly scrubbed, shaved and irrigated with a one per centum carbolized solution. Sponges are thoroughly cleaned and bleached, and, with all towels, napkins and silk sutures are boiled for one hour in a five per centum solution of carbolic acid, and are then placed in a clean five percentum solution of

carbolic acid for *fourteen* days, the solution being changed every two to four days before use. During an operation all instruments are kept in a two and one-half per centum solution of carbolic acid. Urethral and uterine sounds, clamps and other non-cutting instruments used in laparotomy are kept in a ten per centum solution of carbolic acid in glycerine during the operation, but are dipped into a two and one-half per centum watery solution immediately before use.

Cutting instruments are thoroughly rubbed after cleaning, and, if used about infecting pus, etc., are heated in flame and sent to polisher before being used again. Rubber drainage-tubing is soaked in warm water for one day, then placed in a five per centum carbolized solution for two or three days, when they are changed to a fresh solution, and are fit for use after two weeks. The carbolized solution is changed every two weeks. A solution of corrosive sublimate one part to 1,000 to 2,000 of water is used for irrigating wounds in place of the one per centum carbolized solution.

Powdered iodoform or boracic acid is placed over a closed wound or packed into an open one. Iodoform, carbolized or sublimated gauze is used next to the wound with borated or absorbent cotton, impervious mackintosh and a plain or aseptic roller bandage over all. An adhesive iodoform gauze, impregnated with colophonium, a resinous residue in distillation of turpentine, is used in operations about the face, where parenchymatous hæmorrhage occurs.

Other antiseptic preparations used in the clinic are: iodoform plaster, a mixture of iodoform, glycerine and mucilage of gum arabic, spread upon linen, for covering abrasions and for purposes for which ordinary adhesive plaster is used; iodoform glycerine, 10 to 20 parts to 100, for injecting ab-

scesses after aspiration; iodoform collodion, 1 part to 10, for covering abrasions and superficial wounds; iodoform bacilli, consisting of idoform 20 parts, pulvis acacia, glycerine amylum, of each 2 parts, made into bacilli of different sizes for insertion into fistulæ and deep wounds which cannot be irrigated or well cleansed.

Professor Kaposi treats lupus by repeated application of fused nitrate of silver to the tubercles, the stick of nitrate of silver being gouged deeply into the diseased tissue.

Syphilis, in the first and second stages, is treated by inunction of unguentum hydrargyri; gram 2.0 to 4.0 daily for twenty-four successive days, being rubbed into the skin of back, abdomen and inner surfaces of extremities. A solution of potassium chlorate is used to allay any tendency to stomatitis mercurialis. Mucuous patches are touched with lunar caustic, and covered with spray of iodoform in ether.

From 2,500 to 3,000 deaths occur in the hospital annually. Autopsies are held upon all. Tubercular lesions predominate. Abscesses and echinococcus cysts of the liver are often seen. Amyloid degeneration of the liver, spleen and kidneys is common, and amyloid degeneration of muscles, especially of the heart, is occasionally seen.

Pure bacterial cultivations are made from the bodies of those dead from typhoid fever, pneumonia, erysipelas, septicæmia, pyæmia, glanders and tuberculosis. Experimental inoculations are made upon lower animals from these cultivations.

Bacteriological laboratories are also maintained in the departments of surgery, medicine, skin diseases, specific diseases, and in the polyclinic.

235 State Street.

EDITORIAL.

A POSSIBLE NEW FIELD IN SURGERY.

An editorial in a recent number of the *Medical Record* contains some very interesting observations on the organization of foreign bodies within animal tissues. The conversion of bone drainage-tubes, and even sponge, into organized tissues has been observed repeatedly, but these substances are all highly organized, and that they may receive a blood-supply and become connected with the surrounding tissues is not surprising.

The article quoted by the *Record* is from the pen of M. Vanlair in the *Revue de Chirurgie*, and relates to the organization of a rubber tube used in some experiments in the tube suture of nerves. The tube was of ordinary gray caoutchouc, having been in position for seven months and a half. The upper end of the tube was intact, and it gradually tapered downward until it was finally lost in the surrounding tissues; a portion of the tube having evidently undergone partial absorption.

On microscopical examination the rubber was found to have lost entirely its amorphous appearance, and to have given place to a rather dense connective-tissue framework, within the interfasicular spaces of which were found irregular cells of about twenty micro millimeters diameter, with a large nucleus, containing one or more nucleoli. The capillary network was extensive and, in many places, presented the ordinary endothelial lining. At its lower part the tube had become assimilated to the surrounding connective-tissue, and had finally disappeared.

The *Record* observes in conclusion: "That india rubber can thus become organized is the more remarkable when we consider that it is a pure vegetable exudation, devoid of all structure, and seemingly more calculated to act as a foreign body and to prevent the union of wounded surfaces than to undergo organization and to become thus an integral part of the animal tissues."

In a report read before the California State Dental Society,* Dr. William J. Younger describes the following case of implantation of a tooth: "In the early part of March, 1886, a lady, the wife of a well-known dentist, brought me a bicuspid that had been extracted at her solicitation, in Sacramento, on the thirty-first day of January, 1885, in the belief that it was the seat of a neuralgic pain, which had been the cause of great anguish to her. This tooth, brought to me after this long lapse of time, had in the meanwhile been carried about in her portemonnaie, stowed away in her jewel case, and shuffled about in her bureau drawer, and this tooth she wanted replanted in her jaw! My first impulse was to laugh, my next to argue with her about the impossibility of success of such an operation, explaining to her that it was due only to the vitality of the membrane covering the root that the operation owed its success; that without this living membrane the tooth was as impossible of attachment as so much bare ivory or porcelain."

The doctor finally consented to do the operation as an experiment; accordingly, on the 11th day of March, 1886, a socket was drilled, and after soaking the tooth in warm water for about twenty-five minutes it was replaced in the position from which it had been taken thirteen months and eleven days previously. The tooth became firmly fixed. Since this first experiment, teeth that had been extracted for months have

* Abstract *Weekly Medical Review.*

been implanted, and with such success that the procedure will probably become one of the recognized operations of dental surgery.

While a few isolated facts of this kind prove but little, yet when added to previous observations of a similar nature they make a substantial advance in our knowledge. The various operations of plastic surgery, the skin and sponge-grafting, and even the *bizärre* operation of sheepskin-grafting attempted in the Cook County Hospital a few years ago, all suggest the possibilities of the surgery of the future, with additional knowledge of the substances which are most readily assimilated and easiest to become integrals of animal tissues; the best methods of proceeding in the application of such substances, and the manner in which their vitality is maintained, and connections made with previously formed tissues. In the light of the above facts one may not be going beyond proper limits in the use of "scientific imagination" in predicting that the time may come when in many more cases the connective-tissue corpuscles necessary in the repair of all tissues may be supplied from other sources than that of the chylopoietic system of the patient.

The immunity from wound-infection already secured by modern antiseptic methods, and their seeming influence on the healing process would appear to leave but little to be desired. That other advances may yet be made in the direction indicated, in the future, seems not improbable.

THE INTERNATIONAL MEDICAL CONGRESS.

The Executive Committee of the Congress, to whom has been entrusted the work of organizing, met in Pittsburgh on October 11. The meeting was fully attended, and the various reports of the sub-committees and the extensive correspondence of its chairman all showed the advance made in the organization of the Congress. The presidents of all of the Sections of the Congress reported highly satisfactory progress in the appointment of sectional officers, and promises of original papers of a high class. The various officers of the Sections, including members of the Council, now exceed three hundred and seventy-five well-known members of the medical profession in the United States. Numerous appointments to Sections have also been accepted by prominent members of the profession in Great Britain, France, Belgium, Holland, Germany, Brazil, and other countries; so that there can now be no doubt as to the international character of the Congress.

Among those recently accepting office as Vice-Presidents of the Congress, we note Sir B. Walter Foster, President of the Council of the British Medical Association; Mr. Ernest Hart, Editor of the Journal of the British Medical Association; Sir Thomas Longmore, Surgeon-General (retired) of the British Army; Sir Joseph Fayrer, Surgeon-General of India; Mr. John Eric Erichsen, Sir Dyce Duckworth, and Mr. Jonathan Hutchinson, of England; Professor Dujardin-Beaumetz, M. Bouchut, M. Cadet de Gassicourt, and M. Grancher, of France; Professor Moncorvo, of Rio de Janeiro; M. Servais, of Belgium; Alfred Vogel, of Germany, with many others equally well known.

The Executive Committee will continue to prosecute its work, with the object of maintaining the honor of the profession in the United States, and making good the invitation given and accepted in 1884 at Copenhagen.

Arrangements are under consideration for reduced fares on steamships and railways, and in hotels.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Since the last meeting of the Mississippi Valley Medical Association, medical journals in different parts of the country have expressed the opinion that the association was to be made for the west what, by some it is charged that "The Association of American Physicians" is designed to be for the east, viz., antagonistic to the American Medical Association. In view of the action taken by the Mississippi Valley Medical Association, at the Quincy meeting this year, it is difficult to understand how such an impression has been created. The Mississippi Valley Medical Association has been in existence (formerly under the name of the *Tri-State Medical Society*) for a number of years, and it is a working society. It has never had to do with medical politics, and at its last meeting it adopted the code of ethics of the American Medical Association as part of its constitution to remove the unjust impression regarding it, as shown at the last meeting of the American Medical Association at St. Louis. The society, it is true, embraces many members of the medical profession in the Mississippi Valley, but it in no sense attempts to antagonize the national association.

SOCIETY REPORTS.

CHICAGO MEDICAL SOCIETY:

Stated Meeting, September 20, 1886.—J. F. TODD, M.D., SECOND VICE-PRESIDENT, in the chair.

PROFESSOR N. S. DAVIS gave his

IMPRESSIONS OF THE BRITISH MEDICAL ASSOCIATION.

An abstract of his remarks is as follows:

The British Medical Association held its recent meeting at Brighton, the most fashionable and desirable watering place in England, very favorably situated for such a meeting of the profession of that country, being accessible to London as the great central point and having accommodations that probably cannot be found in any other town or city of moderate size in Great Britain. The British Association impresses one as being a body of men more advanced in life than the American Medical Association, not more intellectual development but more of what perhaps might be called sturdy physical development. Indeed this impression of solidity is forced upon the mind about everything.

The British Medical Association is not a representative body, in any sense, but was composed originally much after the fashion of calling together an assembly, organizing a national body and selecting a certain number to constitute a council and submitting the business affairs to the council. Subsequently a rule was adopted by the original council qualifying the profession in any given locality to form a local society and adopt such rules as were not in opposition to the

constitution and by-laws of the national society; these societies were recognized as branches, and each member of a branch became nominally a member of the general body, with the right to attend the general meeting, but not entitled to take part in the general government. Each branch may elect one, two or three members of the council, so that as branch after branch has been organized, and the membership has increased, it has greatly enlarged the council, until, I gather from the proceedings of the Association, the council of the British Medical Association numbers seventy-one. This council has the entire control of the organization; they determine the places of meeting, and all matters in reference to the workings of the organization come before them first. Certain matters are brought before the general body at their meeting for their sanction, but they must originally go through the council. The council has at least four stated meetings in the year; they meet every quarter, and if business of importance is to come before them they may have other meetings. At the annual meeting of the Association the programme is so arranged that when they open at half-past twelve (they do not hold sessions in the forenoon), the council of the preceding year holds an hour's session. New members of the council are elected by the branches yearly, so that new members come in each year and others go out. Following this meeting, at two o'clock is the time for the meeting of the general body, but that did not occur this year; it was crowded out. At a subsequent hour we had what they call the council of the present year. The first meeting was the council of 1885, the next the council of 1886. The Sections held no meetings on the first day. I watched the proceedings carefully with special reference to learning what might be of use to our own National Association. One of the complaints made against us is that

we lose too much time in eating and drinking, and social occasions, and too little advance is made in real science and professional knowledge.

The meeting of the council is held with closed doors. This peculiarity runs through everything. The council not only prepares the reports on business matters, but when they are submitted to the general body the council designates the man to move its adoption and the man to second the motion. I do not think that would be tolerated in America over one meeting, but it is a uniform, regular custom there and they seem to take to it very naturally.

The three sections that had the largest attendance were medicine, surgery and public medicine. They have the same trouble there as occurs in the American Medical Association, there is a certain number of members always coming and going. They come in and sit down, and if at a little distance they can't hear very well, they sit a little while and don't hear enough of the run of the subject under consideration to interest them and they go to another section, so that some are always moving about. Of the pathological and laryngological sections, one was held in the bedroom of King George and the other in what had been his china-closet, capable of seating not more than twenty or thirty people, and these seats were not all occupied. While the attendance does not exceed our attendance, there is about the same shifting and changing as at our general meetings. But the papers that were read had this characteristic to a greater degree than can be said of the papers as a whole with us, those who read papers had taken more pains to prepare them carefully, and to make them cover the ground fully. They had given more care to their preparation.

There is another feature of their meetings. Until the last three meetings of the American Medical Association there has not been any attempt to have parties informed of what particular papers are to be read in any of the sections, so that they might be prepared to lead off in the discussion of the papers. In 1883 in the Medical Section care had been taken to do this. Certain papers were to be read, and several members in different parts of the country were informed that a paper would be read on a certain subject and they were requested to lead in the discussion. The idea was to make the discussions of more value. This same course has been taken in a limited degree in our meetings since then. It is a general practice in the British Association. The officers of the sections, when they learn what papers are to be presented, judge as far as practicable who can impart interest, and have them informed of the general import of the paper and ask them to lead the discussion. Hence they elicit genuine benefit from the papers that are read and from the discussions that follow.

Many papers were prepared that were not read; undoubtedly they will find their way into print, as they do with us; the title was read and they were referred without anybody's knowing what they contained. Sometimes they are presented in abstract; the author thinks he will write it out, but fails to do so. I think in their work they are more deliberate, more complete; they exhaust a subject more nearly, and they endeavor to have the discussion so conducted as to elicit the most information from it. In studying their work as a whole, it seemed to me that there are some things we might copy with advantage.

Some members may be here who remember the proposition

made in our own national organization years ago when the sections met and chose their officers. A proposition was made to change the by-laws so that the officers of the sections should consist of a president and secretary selected at each annual meeting for the next year, so that there would be officers already elected and the organization of the section would be perpetuated. I remember that the late Dr. Gross made a motion that, instead of having reports from standing committees on medical education, medical literature, and so on, which we had had previously, these committees be dropped and in their stead the association select at each meeting men supposed to be qualified for that especial work, in order to present an address to the general assembly, one on medicine, one on surgery, and one on obstetrics and diseases of women and children. That differed from the British programme only in substituting obstetrics and diseases of women and children for state medicine, but it was designed for the same purpose, to have one carefully prepared address read at each of the three last meetings, one on Wednesday, one on Thursday and one on Friday, while the president of the association would have an address on Tuesday especially designed for the general body. I seconded Dr. Gross' motion, but instead of its being carried, it was referred to a committee, as was also the proposition to have the officers of the sections appointed each year for the next, and at the next year the committee reported in favor of having the officers appointed for the following year. At the same time they reported in favor of having the president of each section present an address to the general body on the improvements in the section over which he presided. That was a substitute for Dr. Gross' motion. He and I opposed it on the ground that the presidents of the sections to be chosen each year ought to be selected from the older men,

giving them an honorable position; but yet they would not be the men that would be likely to be adapted to read such papers. However, the proposition of the committee carried. Now we have seven or eight sections with seven or eight addresses before the general body, and what is the result? We find time the first day for the president's address, but the other days of the general meeting do not afford time enough for all the presidents to read their addresses; they are crowded off to the last day and one-third of the addresses prepared by the presidents of the sections are announced by title only. These addresses crowd the entire time of the general meeting of the body, and I think it would be a great deal better if we were to change our by-laws and appoint the first day for the president's address, which should be of a high order, covering the general field of medicine, another to surgery and another to obstetrics and gynæcology, or public medicine. Perhaps occasionally it would be as well to change the subjects for these addresses. The president of each section might deliver an address on any subject of interest to the section. This would insure a larger attendance and promote the work of the section, and yet would not embarrass the general meeting as it does when we try to get in seven or eight general addresses. That, I think, would be a real and substantial improvement in our body; one that we might copy with profit from the British association. Brief discussion of these addresses, and also of papers presented, might follow in some cases by members previously selected for it.

There has been a good deal said of late years about the work of the nominating committee in our National Association. This committee is appointed in a hurry by little knots gathered together who want to get through. The committee is hurried to do its business, and consequently the business is done very

imperfectly. It has been claimed that we ought to have a more steady and conservative body, and the council of the British Association has been suggested as a pattern, but I do not think an organization like the British council would satisfy the medical profession of this country. I think we would not get along with it two years without rebellion against it. It seems to me, in studying the matter over, that we might remove the real evils we suffer from and yet not incur the evils that would follow from attempting to make a permanent council. It has been suggested that it be so arranged that one man would hold his place nine years. Instead of that, I think all the evils from which we are suffering could be obviated by appointing a business committee to consist of two members from each state in the union. Let each State Society that is represented in the organization be entitled to two members of that business committee and elect them the first year to hold office two years, and after they get started elect one each year, so that it would be permanent. By electing a new member each year it would be conservative and not totally changed. All the work that now devolves on the nominating committee could be done by this business committee, and if selected with proper care, it would be a convenient committee to which might be referred various propositions that come up, and which require careful consideration by members who represent the whole country.

There is an evil in the British council that is complained of now. They say this council has four meetings a year, and they have to meet in London because London is the centre of Great Britain. The practical working of that is that the profession within a radius of one hundred miles of London controls that council. It costs money to go from Edinburgh, Cork, Dublin or remote portions of England to London, and

very few out of the whole number of seventy-one go. I learned that there were seven meetings held last year and thirteen of the members did not attend any of them. Not only that, but the more remote districts have found that their delegates so rarely attend, on account of the expense and loss of time, that half a dozen of them reported that they had not elected delegates. Now, if we were to appoint a permanent body, four-fifths of them would let their interest die out. Suppose a council should be organized that is to meet and transact business three times or even twice a year, how many would be found to go from the Pacific coast or from the north to a central point? It would not take ten years to gravitate so that your council would be in the hands of those within a hundred miles of the central point of meeting. If you made that Philadelphia or Washington or Chicago, the whole body would be ruled by a territory of two hundred miles, simply because parties would not incur the expense and spend their time to attend. They will not in Great Britain, and they are discussing the propriety of getting up some mode of compensating them to induce them to go. The plan I propose will, I think, after some degree of consideration, be found to obviate all the real evils we suffer from in hasty action and hasty nominating committees, and yet it would always secure us a satisfactory working body that would be reasonably representative of the several states, to attend to such things as are required to be attended to, and it would be a standing body of intelligent men to whom we could refer such things as would require consideration. The features that I have mentioned are characteristics that struck me as belonging to the British Association, which differ from ours.

In regard to the International Congress: Without solicitation, the council of the British Association altered the pro-

gramme of one of their days, and announced that on Thursday at a certain hour the delegates from the American Association would be heard in regard to the International Congress. When the time came the hall was fuller than on any other occasion; the room was packed, and through the hallways and along the corridors, with people evidently having a decided interest in hearing what we had to say. As the other Americans insisted on my taking the lead, I went on the platform and occupied half or three-quarters of an hour in simple explanation. I made no allusion to anybody's differences except in general terms. We had had our troubles, and our frictions and our errors on all sides, but out of it all had come an organization truly national in its character, made up of delegates from all the states in the Union. This organization appointed an executive committee, to which had been transferred all further management of the Congress. This national committee had reported their work to the last meeting of the American Medical Association, and it was unanimously sanctioned, and so I felt justified in assuring them that this met the approval of the profession of the United States; and while we had no royal titles, the President of the United States, the heads of departments, and the President of the Senate had lent their names as patrons, and I assured them that they would receive as cordial a reception at that Congress as the American profession knew how to give. I would guarantee that they would be met by the intelligent part of the profession of every state in this Union from the Atlantic to the Pacific, and I cordially invited them to come. They received my invitation with the greatest degree of enthusiasm, and after a few remarks from Dr. Pancoast and others, which simply endorsed what I had said,

they voted us their thanks and accepted our invitation to meet us in congress in 1887. Among some of the most prominent men in London and the provinces there is a warm zeal for attending the Congress. Three or four Americans have been on the continent for some time, and report that in France there is a genuine enthusiasm for attending the Congress. In France they do not pay the slightest attention to any differences we have, and just as far as they imagine there is coldness in England or Germany, the Frenchman comes with the more enthusiasm to make it up.

PROFESSOR W. E. CASSELBERRY read a paper entitled

PHARYNGEAL AND NASAL SURGERY BY THE GALVANO-CAUTERY; WITH REPORT OF CASES AND EXHIBITION OF APPARATUS,

which appeared in the October number of the JOURNAL AND EXAMINER.

PROFESSOR F. O. STOCKTON, in opening the discussion, said he had listened with a great deal of pleasure to the paper; the cases are all very interesting. It does not seem necessary to spoil an electrode in order to make one for a special case; it seems that the ordinary flat electrode, by simply bending it down, would answer the same purpose. The trouble is, we must have new instruments for every case that comes up. Unfortunately, all practicing physicians, many of them who understand the throat and nose, are not so situated that they can run into an instrument maker's establishment at any time and have an electrode made, and it is wise to keep down to the standard instruments, which can be bought at any time and which are always at hand. Another point he desired to speak of is the idea that follicular pharyngitis and adenoid vegetations are one and

the same thing. Some authors consider them the same, and others do not. Bosworth, of New York, claims that follicular pharyngitis and adenoid vegetations are one and the same. The battery which Professor Casselberry shows is one which Professor Stockton had used in practice for three years. He had tried a number of others, and found this one the most satisfactory. A short time ago a modification of it, which is a little better, was devised by Dr. Sajous, of Philadelphia, but it is not on the market at present. Many of our prominent writers have rather discouraged people from using the galvano-cautery, as they say it requires a great deal of skill, and knowledge not only of the anatomy of the part we are working upon, but also of electricity and the management of instruments. Dr. Morell Mackenzie, of London, makes that objection to the galvano-cautery; in fact, he says that all, or nearly all, the operations can be performed by simpler means. Dr. Cohen, in his last work, also refers to the difficulty of managing it, but if they had used the instruments of today they would not have found that difficulty.

DR. H. GRADLE said: The Doctor's paper was so complete there is nothing left for comment, except to deviate from the subject and take excursions into neighboring parts. It has been mentioned that a galvano-cautery is not absolutely necessary. That may be true as far the pharynx is concerned, but in the nose it is not. It would be almost impossible to do the same work as steadily by any other instrument, on account of the excessive hæmorrhage that would occur; these cases are unmanageable except with the cautery, and in most instances we can obtain relief both of local symptoms and obstruction of the nose as well as the nervous symptoms

maintained by the excessive turgidity. The question was asked whether hypertrophy of the pharyngeal tonsil could be identified with follicular pharyngitis; he should say not. We may have one or the other, but the follicles in the disease called follicular pharyngitis are much below the level of the gland. He has often found the gland hypertrophied into a very solid mass of about the consistency of the tonsils. The hypertrophy may of course have any extent; it may be so slight as to leave room for doubt of its existence, while in other cases it is impossible to gain any view of the posterior choanæ. In such cases nothing can be thought of but operation. He has used the cautery in the form of a white hot knife or hot snare for hypertrophy of the pharyngeal tonsil, but not satisfactorily. Where we have a distinctly pedunculated tumor it will do well enough to use the hot snare, but where the tonsil is hypertrophied into a solid mass not at all movable with the probe, he has found very little success with the battery, except that its removal is not so painful as by other means. He has at last settled down on the method suggested by Trautman, viz., a sharp curette, as sharp as the instrument-maker can make it, the shank of which is bent at an angle of 140°. The operation is a barbarous one as far as appearances go, because it requires force. There is pretty free hæmorrhage, but the pain is not very great. Unless the person is pretty tolerant it is not easy to remove the entire tonsil in one sitting, but in children he has not had any greater difficulty in coaxing them to the second sitting than at the first one. The results are extremely satisfactory, especially in cases of ear-disease due to this trouble. He has had considerable experience with different forms of battery; the kind which he prefers and recommends is an accumulator, if a wire can be had from some electric-light plant. He says he can speak well of the

McIntosh battery, but prefers one in which the carbon plates are made of the electric-light sticks. They are much harder than the ordinary carbon plates, and we can easily get a very large surface in the battery.

DR. R. TILLEY said he had had some experience with the cautery and with batteries and is now using the form of battery Dr. Gradle has referred to. He has the two cells attached so as to use them together, and have them so arranged that they can be lifted up with a crank; they are thus very easily manipulated. He has used this battery for about eighteen months, and it has always given satisfaction. He referred to a slight modification in the fluid which he has recently used; it consists in the use of bichromate of soda instead of bichromate of potash. The advantage is that when the fluid has been used for a considerable length of time, in using the potash there is always formed a large number of crystals in the bottom of the cell, which are very hard and require quite a little time to remove; and which are so closely connected with the cell that there is more or less danger of breaking the glass. In using soda instead of potash this does not occur. The compound thus formed is so soluble that no accumulation is formed at the bottom of the cell. He makes all of his own electrodes and uses, practically, wire alone. He sees no advantage in the knife over certain modifications of the wire. In operations in the post-nasal and pharyngeal regions he uses the cautery to burn the tissues completely to the bone. The object in view is to make a cicatricial tissue extending from the surface of the mucous membrane to the periosteum, so as to prevent that tumefaction which frequently occurs and fills up the nares. This tumefaction is quite remarkable sometimes and changes so readily that he has seen the anterior part of the turbinated bone swollen up and a moment after-

wards the swelling gone, so that there could not be any possible reason or justification for using the cautery from the appearance of the tissues at the moment. Yet when the patient lies down at night he finds the nostril on the side on which he is lying so stuffed up that it is almost impossible to breathe. He has found that when the anterior part of the turbinated bone is burned well down to the bone tumefaction rarely occurs afterwards. Then there is a necessity of looking after these burns, especially in the posterior regions. In the anterior aspect of the nose there is only a small amount of mucus coming over the part that is burned, and no difficulties follow cauterization; but when the burned area is situated far back the mucus flows over it, and it not infrequently happens that unless the part is well attended to a certain amount of fungus growth develops in this region. He considers the after-treatment an important factor in cauterizations. He desired to say a word in regard to these adenoid growths in the posterior nares that Dr. Gradle has referred to. Dr. Trautman, of Berlin, removes all these vegetations with the sharp spoon, and claims remarkable success. Dr. Tilley has not seen anything like relatively the same number of cases in his practice that it would seem are met in practice in Berlin. He thinks adenoid growths are more rare in Chicago. With reference to their removal with the galvano-écraseur, he would be disposed to think that the ordinary wire écraseur would be more efficient than the sharp curette, and could be more easily manipulated and more of the growth taken off at the same sitting than with the galvano-cautery.

PROFESSOR W. E. CASSELBERRY, in closing the discussion, said, there were some points on which he wished to add a few words of explanation. In reference to spoiling an electrode in order to make a single loop to treat a special case, he

spoiled the moxa-electrode, because it was an easier way to get the loop than to send to Philadelphia and have one made. As to the merits of the loop over a knife electrode, he thinks that in cauterizing the soft tissue, by taking a small elongated loop and pressing it into the part one gets a slough produced by each parallel wire, and it produces a larger slough with less pain than can be obtained by the knife electrode; the loop will sink further into the soft growth. If a plain knife electrode be used, the slough produced at once under the flat surface of the electrode prevents further effect from its caustic action. He had not only employed the small loop in this particular case, but had found it useful in cases of hypertrophy of the inferior turbinated body where it was unnecessary to cut off a large section by means of the knife or écraseur. By simply taking the elongated loop and pressing it against the body, a considerable slough is produced in the center; after this has separated there remains an ulcer, and when the ulcer heals there is cicatricial tissue, which afterwards binds the body down.

In regard to the multiplicity of instruments, of course the multiplying of useless instruments is to be deprecated, but he would call to mind the fact that a large portion of the advance of medical science during the last half century has been directly due to the invention of new and improved instruments and apparatus. If those who devised the microscope, the ophthalmoscope, the laryngoscope, etc., had been satisfied with the "standard instruments" already in the market, we would not now have those most important forms of apparatus. A new instrument should always receive attention, and if it is a real improvement the inventor should be given due credit.

The glandular structures of the vault of the pharynx out of which adenoid vegetations are formed, and the follicles of the

oro-pharynx, may not be histologically identical, but they are very similar in structure; they are both lymphoid tissues, and both exhibit the same tendency to undergo the hypertrophic process and to form similar large masses, which, if allowed to remain, produce morbid symptoms.

He did not know that it is necessary to say anything more in regard to batteries; there are a great many in the market. He is favorably impressed with the one which he uses and it has never failed to work. Although it may not be detrimental to have the plates remain in the fluid, yet, he said he has an uncomfortable feeling when he knows that his plates are being spoiled and the fluid used up faster than they need be. The Sajous battery spoken of is an improvement on the Fleming in this respect, the pedal is not so high from the floor. When one is operating, if he raises his foot to the height of eight inches he is liable to throw himself out of balance and to lose his line of vision. The pedal of the Sajous battery is only about two or three inches from the floor and it is unnecessary to raise the heel off the floor to work it, thus maintaining the balance of the body. The Sajous plates, also, are corrugated, thus giving the most surface in the least bulk. But unfortunately, the Sajous battery is not in the market. The one which Dr. Sajous uses he had made to order, but no doubt it will be put upon the market soon.

The various methods of operating for adenoid vegetations have all the same end in view, that is, the removal of the vegetations. The sharp curette is a good method if the patient will stand the blood, increase of pain and the length of the operation. In the case of children it is a rather difficult method, and requires considerable skill and fortitude on the part of the patient. The case related in this connection was a girl about fourteen years old. He first tried the forceps, but the pain in

cutting off the adenoid vegetations was objected to very strenuously by the patient, and he was obliged to desist. Before he tried the hot snare he tried the cold snare, but found that it took some time to draw up the steel wire and thus squeeze off the vegetation. After the adoption of the hot snare he had no difficulty. The mere introduction of the instrument caused no pain, and after getting it over the vegetation, in two seconds the growth was off, with but little pain and no hæmorrhage to frighten the patient. The treatment of hay-fever by the cautery method, he would like to discuss, but the lateness of the hour did not permit it.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, October 4, 1886.—E. J. DOERING, M.D., PRESIDENT, in the chair.

PROFESSOR CHARLES WARRINGTON EARLE entertained the Society with a very interesting account of his recent trip abroad, referring more particularly to observations made in the

HOSPITALS OF PARIS AND THE LABORATORY OF M. PASTEUR,

an abstract of which appears elsewhere in this number of the JOURNAL AND EXAMINER.

DR. CHARLES F. SINCLAIR read a paper on

THE RELATION OF CERTAIN FORMS OF DEFECTIVE VISION TO HEADACHE IN YOUTH.

He said that the headaches arising from defective vision are very numerous. They possess certain definite characteristics, according to the degree and character of the ametropia. Thus, instead of the usual classification, the oph-

thalmologist might furnish a terminology of his own based upon the condition of the eye. The pain in these cases increases as the errors of refraction become more complicated. A woman had suffered with intensely painful headaches for fifteen years who was found to have mixed astigmatism, and here properly adjusted lenses effected a cure.

It is in childhood and youth especially that these different forms of ametropia manifest themselves in headache. Dr. W. H. Day, of London, however, in his work on the "Nature and Causes of Headache," in which he devotes a lengthy chapter to the headache of childhood and youth, does not mention ametropia as a possible cause.

Nevertheless the eye, among school children, is frequently the cause of all the head trouble. Among American children one form of ametropia is exceedingly common and very disastrous in its effects. It is difficult to detect. It may in certain cases simulate different forms of ametropia, and even normal vision. He referred to a case in which occurs a slight degree of astigmatism under one dioptric.

Maud W., a school girl 14 years old, had suffered with severe headaches. On examination excellent vision was found, but minus lenses improved it and made it normal. After the use of homatropin, however, half a dioptric of hypermetropic astigmatism was found, which was corrected and the headache cured.

Emily R., 15 years old, had suffered with constant headache for a year. On examination, .50 D manifest hypermetropia was found, and only this was corrected, as patient would not submit to the use of atropia. This patient returned in a few days saying that her headaches were as bad as ever, when homatropin was used and a small degree

of hypermetropic astigmatism was found. This being corrected, a cure of the headache was effected.

In another case there were constantly recurring attacks of vertigo and dizziness, together with severe unilateral headache caused by astigmatism, and which properly adjusted cylindrical lenses cured.

These are types of an exceedingly large number of cases where headache can be cured by a weak cylindrical lens. These cases are interesting not only because of their marked consequences, but because of their tendency, in certain cases, to exactly simulate other conditions, and they certainly suggest the advisability, in every case of severe headache, to examine the eye only when under the influence of atropia.

PROFESSOR W. FRANKLIN COLEMAN said that in an examination of the eyes of pupils in Boston, in eighty-nine cases of defective vision fifty-nine were traceable to over-study. Out of this number twenty-five to fifty per centum of the cases of headache which occurred were relieved by supplying suitable glasses. Another class of cases in which headache occurs is when there is weakness of the recti muscles. By supplying proper prismatic glasses this weakness may be overcome, and the headache disappears. Other factors in producing headache are improper light and too low desks, thus causing the pupil to strain the eyes. So far as artificial light to read by is concerned, the incandescent electric light is probably the best, as it most nearly resembles sunlight, and is free from heat, dust and flickering.

PROFESSOR F. C. HOTZ said he believed the authors of such papers as this often exaggerate the importance of their observations. The result is, patients are often advised to go to oculists,

but do not do so on account of the expense, or for some other reason, and the patient therefore receives no treatment. But he has been surprised to see how few cases of defective vision come to him complaining of headache. He has not found it a prominent symptom. In looking over his record of cases he finds a great many cases of astigmatism, hypermetropia, and ametropia, in which the symptoms complained of are difficulty of vision, but not headache. Children often complain of not being able to see the figures on the blackboard, and consult the oculist for that trouble directly. But if a large number of cases of the eyes of children are examined, it will be found that in youth a normal eye is often far-sighted, and yet such persons are able to do the work required. However, in cases of defective vision, accompanied by headache, the defect of vision should be corrected.

PROFESSOR J. E. COLBURN related his personal experience with astigmatism, stating that not only had he headaches, but he could not study well, and these difficulties disappeared with the using of proper glasses.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, October 18, 1886.—E. J. DOERING, M.D., PRESIDENT, in the chair.

PROFESSOR R. W. BISHOP read a paper entitled

IS ALOPECIA PREMATURA CONTAGIOUS?

He thought this disease due to micro-organisms upon the shafts of the hair, and that it is contagious. He has made a series of experiments, assisted by Dr. Oscar Lassar. A typical case was that of a perfectly healthy young man whose head was nearly bald on top. The hair from the diseased sur-

face was brittle and came out easily when pulled. Microscopic examination revealed a large number of fungi on the scalp and the shafts of the hair, the root being free from the parasite. The diseased hairs were cut and mixed with vaseline, which was rubbed on the skin of healthy rabbits, and in two weeks the hair entirely disappeared from the parts which had been rubbed. Experiments were continued, and it was found that the hairs from the inoculated animals possessed increased virulence.

The patient was treated as follows: The head was thoroughly washed for fifteen minutes with tar soap, which was removed with warm water. The head was then exposed to a warm water douche, which was gradually cooled until the water was quite cold; it was then rubbed with a rough towel until dry, and afterwards washed with a solution of corrosive sublimate 1 to 500. This was removed and a ½ per centum of lithol applied, and, after this, 1 ½ per centum of carbolic oil was applied very slowly. The treatment was continued daily for eight weeks, and the result was a fine growth of new hair with beginning pigmentation at the end of three months.

DR. JOSEPH ZEISLER thought this was a disease which possibly might be produced by vegetable organisms. He knew of Professor Bishop's experiments, still there were strong objections to the value of these experiments. Michelson made some experiments by using a mixture of vaseline and rancid oil and rubbing it on the skin of guinea-pigs, and after these inunctions the animals got bald on the places anointed, although neither sick hairs nor scales were used. There are older experiments which show that animals fed on old cheese or hard boiled egg get bald. Another point was, that the disease is so frequently met with in men and so rarely in women, between whom there are plenty of chances for con-

tagion. It is an ascertained fact that the disease most frequently occurs in men who in their earlier years (17 to 25) suffer from pityriasis of the scalp, so that there certainly is a causal relation between this affection and alopecia. After all, he thinks that the contagiousness of this disease is still an open question.

DR. FRANK BILLINGS spoke on

HOSPITAL PRACTICE IN VIENNA, WITH EXHIBITION OF NEW URINE TESTS, NEW INSTRUMENTS, ETC.,

of which an abstract appears in another part of the JOURNAL AND EXAMINER.

PROFESSOR C. W. PURDY said that in testing the urine for evidence of kidney-diseases, the only proteids of any significance were serum albumin and globulin. The presence in the urine of peptone, hemialbumose, etc., points to morbid conditions outside of the kidneys, and whatever light they may shed upon general conditions, they afford us no information whatever as to the state of the kidneys. He mentioned this because so much had been written of late on peptonuria, and the various transition proteids, that an impression seemed to have arisen that the presence of these in the urine was of scarcely less importance than that of serum albumin. The only bearing these non-homogeneous proteids have upon the subject is the fact that their occasional presence in the urine may, with certain tests, be mistaken for serum albumin, unless great care be exercised.

He believed the most delicate of all tests for albumin in the urine to be the potassa mercuric iodide with citric acid; but that it had not met with general favor thus far on account of the errors liable to arise through its use. It is necessary to discriminate between the precipitates formed

by this test with peptone, alkaloids, above all with mucin, and that formed by serum albumin. It is true that heat clears up the precipitates due to peptones and vegetable alkaloids, but not so with mucin, the latter being practically indistinguishable from albumin. He has lately, however, come upon a method which he believes will correct not only the errors due to the presence of mucin, but also those likely to arise from the presence of alkaloids and peptone when precipitated by this test. The method is very simple, viz. : after having applied the reagent to the suspected urine, if a precipitate be formed, add hydrochloric acid in volume equal to the quantity of urine tested ; if mucin, peptone or vegetable alkaloids be the cause of the turbidity, it promptly clears up ; while if due to albumin the precipitate becomes flocculent and settles, but does not dissolve. A considerable number of experiments have shown him that hydrochloric acid in volume equal to one-half the quantity of urine tested quickly clears up the peptone, alkaloid and mucin precipitate, while it requires at least two volumes of hydrochloric acid to dissolve the slighter traces of albumin in urine when precipitated by the mercuric test.

With regard to sugar testing : In addition to the test brought forward by Dr. Billings, two new ones have recently been introduced, both of which are of such exceeding keenness that they are claimed to be able to detect 0.00001 per centum of sugar. These tests are, alcoholic solutions 15 to 20 per centum of alpha-naphthol, and thymol. Two drops of either of these solutions are added to two cubic centimeters of urine, and the mixture briskly shaken ; sulphuric acid is next added in quantity equal to the volume of urine, and again briskly shaken. In the case of alpha-

naphthol a deep violet color is developed in the presence of sugar, and dilution with water throws down a violet blue precipitate, soluble in alcohol with a yellow color, or in caustic potash with a deep yellow. In the case of thymol a dark red color is produced, and, on adding water, a precipitate settles, which dissolves with alcohol, forming a yellow color more decided if ammonia be added.

Professor Purdy often had samples of urine sent him, which though loaded with albumin, no casts could be found therein. These were samples of urine which had been long passed—perhaps several days before, alkaline fermentation having occurred, and the urine rendered alkaline quickly dissolves the casts. In searching for renal casts it is of the greatest importance to have the urine as freshly passed as possible. His method of examining urine for casts is as follows: First, he prefers to have the urine passed at his office. If the urine be neutral or alkaline in reaction, he renders it acid by the addition of dilute acetic acid. In all cases he adds a solution of resorcin to the urine, which prevents change for weeks. The urine thus treated is set aside in a conical glass, carefully covered and allowed to stand for from twenty-four to forty-eight hours; at the end of this time, a few drops—not more than ten—are taken up by a glass tube from the bottom of the glass, and one or two drops placed upon a glass slide and examined under the microscope. He had had no difficulty in finding casts by this method if they were present in the urine even in sparse numbers.

PROFESSOR FRANK S. JOHNSON described a new form of *Hæmoglobinometer*, viz.:

THE HÆMOMETER OF VON FLEISCHL.

It consists of a stand with a horseshoe base, an upright, a

stage, and a well divided perpendicularly in two equal compartments and closed below by thin glass. One-half of the well is to hold blood of known dilution, the other half is for clear water. This well fits an opening in the stage. Beneath the stage, is a plain white reflector. On the under side of the stage is a frame that can be racked back and forth. Set in it is a narrow wedge-shaped piece of ruby glass whose width is one-half that of the opening in the stage. The thicker end of the wedge gives by transmitted light the color of a dilution of blood containing the maximum amount of hæmoglobin. The thinner portions correspond with the color of a dilution of blood poorer in hæmoglobin. The percentage of variation from the normal amount of hæmoglobin is estimated by comparing the color of the blood solution with some part of the ruby wedge. Only artificial light can be successfully used for the examination.

With the instrument are several capillary tubes for measuring the amount of blood to be used for comparison with the colored glass standard. The necessary amount of water for making the dilution is measured in one of the chambers o the well.

The blood for examination is best obtained by pricking the ball of an uncompressed finger and forcing out a drop by gentle pressure. The amount needed is taken in the capillary tube. One of the halves of the well having been previously half or two-thirds filled with water, the blood can be easily washed from the measuring tube into it. Then both halves of the well are accurately filled with water so that the upper surfaces are plane. A small pipette is furnished for this purpose The well is then so adjusted that the half holding water is above the colored glass, and that holding the blood solution

receives its light directly from the white reflector. The next step is to so adjust the ruby wedge that the light it transmits corresponds in color with that passing through the blood solution. The observer then reads off the percentage of the normal amount of hæmoglobin as indicated by a scale graven upon the metal frame carrying the glass wedge. The average per-centage of hæmoglobin in the blood of healthy individuals varies greatly with age and sex. The average is from 12 to 13 per centum. The per-centage of this amount is ascertained by comparison with the color scale. This result should be corrected as far as possible for the known variation of hæmoglobin in healthy blood. Taking as the normal per-centage that found in the blood of healthy individuals between 25 and 30 years of age, it is found that in the first few weeks of life the per-centage is greatly in excess; but after six months or a year, it is below the adopted standard, reaching it again at about 25 or 26 years of age, and that after the thirtieth year, the amount is below the normal but is variable.

The instrument recommends itself to the ordinary practitioner. It does not entirely replace the hæmocytometer, but in all cases where it is only necessary to watch from time to time the rise and fall of the hæmoglobin in the blood, it can be done much quicker and more accurately than by the hasty counting of the corpuscles by the microscope.

DR. J. J. M. ANGEAR thought that it is necessary to count the globules, because we have conditions where the red corpuscles are normal in number but deficient in hæmoglobin, hence the necessity of both instruments.

DR. C. E. WEBSTER, chairman of the Pathological Committee, exhibited a spinal column and said that it showed caries resulting in the entire destruction of the bodies of one of the

vertebræ, without the protection of the characteristic deformity before the removal of the ligaments, no curvature being noticeable.

CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular Meeting, Friday August 20, 1886.—THE VICE-PRESIDENT, HENRY T. BYFORD, M.D., in the chair.

I.—DR. W. W. JAGGARD exhibited

AN OVUM CORRESPONDING TO THE FOURTEENTH WEEK OF PREGNANCY, SHOWING TWIN PREGNANCY, WITH ONE PLACENTA, ONE CHORION, ONE AMNION, BOTH EMBRYOS OF THE MALE SEX.

The interesting specimen was placed at his disposal through the courtesy of Dr. Daniel H. Williams, of Chicago. The egg corresponded to the fourteenth week of pregnancy. It was a case of twin pregnancy, with one placenta, one chorion and one amnion. The embryos were equally well developed and were of the male sex.

The case illustrated one of the modes of origin of multiple pregnancy. An ovum may have two nuclei, and an embryo may be produced from each nucleus. Under these conditions, the fecundated ovum has one placenta (or there is anastomotic communication between two fused placentæ), one chorion and two amnions. The amniotic septum may be broken down or absorbed, and the embryos may be contained in a single amniotic sac, as in the specimen exhibited.

In a case of single placenta, or fused placentæ with anastomotic communication, and a single chorion, the twins are always of the same sex. (Hyrtl, Spaeth, Braun.)

II.—Discussion of PROFESSOR JOHN BARTLETT'S paper, entitled

A PROPOSED MODIFICATION OF PORRO'S OPERATION.

(Professor Bartlett's paper appeared in the September number of this journal.)

PROFESSOR A. REEVES JACKSON said: I have never performed Porro's operation, and am not sufficiently familiar with the literature of the subject to be a proper person to open or even take part in the discussion. I confess I scarcely understand what advantages this operation proposed by the essayist offers over the improved operation by Sänger, I would like to know whether Dr. Bartlett has performed this operation either upon the living subject or the cadaver. It seems to me there are practical difficulties in the way. In a review by Harris, of Philadelphia, in the *American Journal of the Medical Sciences*, of the work of Mangiagalli "On the More Recent Modifications of the Cæsarean Section," it is stated that it had been proposed to invert the uterus; for the purpose, however, of lessening the danger from septic infection, and not to facilitate the amputation, as is designed by the suggestion of Dr. Bartlett.

DR. E. J. DOERING asked how often the Cæsarean operation had been performed in Chicago.

PROFESSOR W. W. JAGGARD thought Dr. Bartlett's paper a very ingenious essay, although not based upon sound surgical principles. In the first place, he thought the title of the essay a misnomer. The operative procedure proposed by Dr. Bartlett was not in any sense of the term a modification of or a substitute for Porro's operation. It was a perfectly distinct operation. Dr. Bartlett's method offered no advantages over Porro's operation, as modified by Müller and others. The abdominal cavity is not more thoroughly closed. The presence of a large pedicle does not embarrass the closure of the

abdominal incision. The relation of the parts in the suggested procedure are not more natural and much less strained than in the *status* in which Porro's method leaves them. Drainage is entirely unnecessary when Porro's operation has been skillfully performed.

On the other hand, the positive disadvantages are numerous: The dangers of shock and hæmorrhage in artificial inversion of the uterus has been very much underestimated by Dr. Bartlett. The cases, collected from the literature of the subject, when they were at all relevant, were questionable as to authenticity. Accidents occurring to the uterus among the lower animals could not be adduced in evidence as to what would be the probable effect upon human beings under similar conditions. The thermo-cautery was inadequate to the arrest of hæmorrhage from a large incision through the walls of the pregnant uterus.

The uterus could only be inverted with ease, when it was pathologically flaccid,—an exceptional condition. Porro's operation was performed in cases of the simple, flat rhachitic pelvis, when the antero-posterior diameter of the brim was 6 cm. or under. Above 6 cm. craniotomy or the forceps is indicated. It would be very difficult to invert the uterus through the conjugate, oblique or transverse diameter under such conditions. In the pelvis of Robert, or in the osteomalacic pelvis, in which the degree of contraction is usually higher, artificial inversion of the uterus would be well nigh impossible.

Then amputation of the inverted uterus is a dangerous operation *per se*. Of the 48 cases collected by Dr. West,* 12 terminated fatally. Of 58 cases of amputation of the inverted uterus, reported from a German source,† 18 terminated

* Diseases of Women, p. 240.

† American Journal of Obstetrics, Aug., 1868.

fatally. "In 106 cases of amputation by ligature* and otherwise, over 31 per cent of deaths occurred." But it is not necessary to multiply statistics. So great is the mortality of this operation, that A. Martin† has proposed as a substitute the total extirpation of the uterus.

If, then, upon *à priori* grounds Dr. Bartlett's suggestion has no real advantages over the modified Porro operation, and, on the other hand, possesses actual disadvantages, it is scarcely probable that the expedient will receive serious consideration.

DR. J. SUYDAM KNOX said: Dr. Jaggard has about covered the objections I intended to make. My impression is that Dr. Bartlett in his paper has over-estimated the relaxation of the uterus immediately after delivery, and the ease with which inversion can be accomplished. Atony of the uterus is the first cause of inversion; and when we consider how minute is the per-centage of inversions in the vast number of labors, we can fairly assume that relaxation immediately after delivery seldom occurs. If this be so, inversion, even with the *vis a tergo*, would be extremely difficult. Again atony of the uterus is the cause of the most dangerous symptom or complication of inversion, namely, hæmorrhage; therefore the cases most favorable for the operation of Dr. Bartlett would be the last ones in which so doubtful an experiment would be tried. The Doctor has made a valuable suggestion. Any method that successfully removes the uterine stump from the abdominal cavity, without attaching it to the abdominal incision, advances the operation of hysterectomy. In the ablation of the non-pregnant uterus, I think Dr. Bartlett's method finds its best opportunity.

* Emmet: Principles and Practice of Gynecology, 1884, p. 436.

† Pathologie und Therapie der Frauenkrankheiten, 1885, p. 144.

PROFESSOR JAMES H. ETHERIDGE asked if the performance of inversion by forcible traction involved the full dilatation of the neck of the uterus. How does Dr. Bartlett propose to accomplish this, does he dilate it forcibly? With the uterus well up beyond the umbilicus, how do the broad ligaments come out of the pelvis, and with the uterus forced clear down out of the vulva, how much traction is there going to be on these broad ligaments? Is there room enough to permit the uterus to be drawn down?

Why, under the circumstances, could not forceps be immediately applied to the edge of the cut uterus, and arrest the hæmorrhage, and the work be then proceeded with at pleasure? I speak of hæmostatic forceps.

DR. E. W. SAWYER said: It seems a little presumptuous for one who has never had experience in this department to attempt to enlighten the Society. One of the most interesting questions to be decided is which operation to perform. I confess if I were confronted to-night with one of these cases I would be wholly incompetent to decide between the Cæsarean operation and the operation of Porro. It may be interesting to read the words of Lawson Tait upon this very point, showing his preference for the new operation, so-called. In the fifth number of the *British Gynæcological Journal*, he says: "The whole of my experience in meddling with the pregnant uterus by abdominal section, consists of five cases, three of the ordinary Cæsarean section and the two I am about to describe in detail. Of the Cæsarean sections one was performed for malignant disease of the vagina about fourteen years ago, the other two for deformed pelvis, respectively seven and five years ago, and the mothers died, and only one of the children is now living. The results

indeed are such as to determine me never to repeat this procedure, having before me the arguments of Dr. Godson and the fact that both my amputation cases have recovered." At the same meeting Dr. Routh said: "That he was much interested and instructed by Dr. Lawson Tait's paper. At the same time he could not help making some criticisms upon it. First, he believed that Mr. Tait had exaggerated the mortality of the Cæsarean section. It was not anything like 99.971 per cent. Churchill stated that out of eighty cases twenty-three mothers were saved, or 28.7 per cent., forty-four children being saved. Dr. Radford, out of seventy-six cases he collected, found 14.28 were saved, and forty-six children were also saved. Dr. West, out of 409 cases, states the recoveries as 38.4 per cent., 237 children being saved. Now he (Dr. Routh) could not help feeling that if in these days of improved antiseptic abdominal surgery, the same skill and care were taken in cases of Cæsarean section, the safety of the mother would be much more common." It is interesting to see how gentlemen will differ in their opinions upon such an important thing as the selection of an operation in an emergency case. So I am still in doubt whether to adopt the modern method of Porro or to depend upon the Cæsarean section, which the remarks of Dr. Routh would indicate is quite as favorable.

At the request of Dr. Etheridge, Dr. Sawyer narrated the following case, showing the shock and hæmorrhage of acute inversion. I will state very briefly an experience which, no matter how long I may live, seems as if it would never become dim. I have never had any doubt that the determining cause of the acute inversion in this case was the enormous distension of the uterus due to the large quantity of *liquor*

amnii. Before the woman was delivered, I was impressed with the fact that she probably had twins, but this was not the case. When the woman was delivered the bed was flooded, the *liquor amnii* flooding the room even. I put my hand upon the woman's belly, as is my custom, and at the first indication of contraction of the uterus, I substituted the husband's hand for mine that I might pay attention to the child. I am confident that the husband's fingers dimpled that uterus. I had no sooner detached the child than I gave the usual teaspoonful of ergot. I was in a hurry, on account of the flabby condition of the uterus, and for fifteen minutes my time was occupied in paying attention to the child, getting it to breathe. The woman, who had recovered from a small quantity of ether which I gave her, threw up her hands and I saw she was pale. I put my hand under her husband's and felt the edge of the uterus like the edge of a saucer, I could define the margin of the crater, my finger in the vagina met the globe inverted and the truth flashed across me that I had an inverted uterus. Now fifteen minutes had not elapsed before that uterus was so firmly ergotized that it was impossible to replace it. I immediately resumed ether and the woman began to snore, but that made no difference, the womb was ergotized and the woman died from shock and hæmorrhage with the uterus unreduced.

Dr. Jaggard has called attention to the enormous hæmorrhage, and this reminds me of a case in which I removed a fœtus from the abdomen of a woman in the little town of Boulder. The fœtus had been in the uterus for three and a half years. It was an adventitious uterus, the exact structure of which could not be ascertained, but the hæmorrhage from the false uterus was enormous, and, I think, destroyed the woman. If the false uterus and adventitious sac could bleed

to that degree and so early in pregnancy, the dangers of hæmorrhage must surely be greater in the uterus at term containing a living fœtus and an active placenta.

This operation was done in 1874. The hæmorrhage was cavernous. We arrested the hæmorrhage by seizing the edges and puckering them up and tying an enormous ligature around the stump. For a moment that arrested it, but the woman subsequently died.

DR. H. T. BYFORD said: Like any other operation, this one, supposing it to be an operation that has been performed, has its limitations. I think Dr. Jaggard's suggestion that a greatly contracted pelvis might afford sufficient difficulty to make the operation impracticable, is a good one, although I think that the uterus might be inverted through a pelvis too small or too much distorted for a safe craniotomy. Another limitation would be an undilated condition of the cervix. The irritation produced by rapid dilatation would certainly render the cervix unfit to be left as a stump, and make the Cæsarean or Porro operation preferable. If the os is already dilated, then Thomas' revised laparo-elytrorrhaphy must be given precedence, provided there be no counter-indications. The difficulty of inverting the uterus is not an imaginary one, and it seems to me that the best way to overcome it would be to invert the uterus, placenta and all, before the placenta is separated, and between pains. This would tend to still further limit the operation to cases without extreme contraction and would bring it into rivalry with craniotomy. Its chief advantage over the Porro operation lies in not fixing the cervix several inches beyond its normal position; and here lies the germ which the author seems to be trying to develop. Should there be a condition of the uterus which would not favor the Cæsarean operation as performed by Sänger and

Leopold, should the size of the cervix or vagina render fixation of the stump in the abdominal wound too difficult, were the uterine walls not sufficiently relaxed to be inverted, or the pelvis not roomy enough to allow inversion with the placenta attached, should the condition of the tissues about the vagina and bladder contra-indicate laparo-elytrorrhaphy, and should the os dilate naturally and easily, then this operation would find its rare opportunity. The process of paring out, and inverting the cervix, as has been suggested, is easier to talk of than to perform. Any one who has seen the uterus amputated, even in cases of fibroid tumors, will agree that the loss of blood, including that taken off with the amputated pregnant uterus, and the vascularity of the stump would make the process of inverting the sliced cervix very hazardous. The stump, thus turned down, would undoubtedly shrink rapidly, and become a hard one to manage. As to opening the uterus with the cautery, I think this would not possess much advantage unless complete constriction of the uterus and broad ligaments could be made, so that bleeding would not interfere with the complete searing of the parts.

PROFESSOR BARTLETT, in closing, said: Some of the fellows taking part in the discussion, as they have stated, have not had an opportunity of hearing more of the paper than the bare proposition. Not needlessly to occupy time, I shall pass over such objections (all of which I recognize as forcible) as have been fully considered in the paper, now printed.

Dr. Jaggard refers to the authorities quoted by me as "questionable." So far as my knowledge extends, not a case cited rests upon other than unquestionable authority. The Doctor thinks the actual cautery would prove useless as a means of arresting hæmorrhage from the uterine incision.

Prior to the time of Ambrose Paré, the cautery was relied upon "to arrest all forms of hæmorrhage."

Dr. H. T. Byford has dwelt upon the difficulty of dilating the *os uteri* by artificial means, and in my opinion he has not exaggerated the difficulties often encountered in practice, where the parts are not prepared for dilation.

In regard to the embarrassment felt by the Secretary as to which operation to prefer, whether the old or the Porro method, I might say that, in face of the several substitutes and modifications, he would be amply justified in preferring the old Cæsarean section.

W. W. JAGGARD, M.D., *Editor.*

2330 Indiana Avenue, October 1886.

CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular Meeting, September 17, 1886.—THE PRESIDENT, DANIEL T. NELSON, M.D., in the chair.

I.—ETHERIDGE. *Report of a case of Supra-Vaginal Amputation of the Pregnant Uterus, Complicating a Multilocular Fibroid Tumor.*

II.—PARKES. *Successful Removal of the Uterus for Fibroids.*

PROFESSOR JAMES H. ETHERIDGE read a paper entitled

I.—REPORT OF A CASE OF SUPRA-VAGINAL AMPUTATION OF THE PREGNANT UTERUS, COMPLICATING A MULTILOCULAR FIBROID TUMOR.

Mrs. A. B., aged 34 years, married several years, no children, first experienced uterine symptoms some four years ago, which Dr. Knox, her medical attendant, recognized as due to a uterine retroversion, and treated with a pessary for

six months. On March 10, 1884, he was again called to her, and found the uterus again retroverted. "This time, however," he writes, "it was apparently fixed in the pelvis; the *os tincæ* was caught firmly behind the pubes, and in Douglas's *cul-de-sac* was a firm sensitive mass that seemed to be more than the *fundus uteri*. There was also considerable abdominal tenderness, fever, and nausea. It was difficult to diagnosticate between cellulitis and simple retroversion with impaction. Careful manipulation, however, in Sims's position, corrected the displacement with complete relief of the distressing symptoms. Hot fomentations and vaginal douches aborted the threatening cellulitis. Two days thereafter, on careful examination, I detected a sub-peritoneal myoma on the left posterior aspect of the fundus. It was about half the size of an unimpregnated uterus. This accounted for the tight impaction of the retroverted organ.

"A pessary was again introduced, and twenty minim doses fluid extract of ergot, three times a day, ordered. The drug was faithfully taken for about twelve months. During that time a second fibroid appeared upon the right lower and anterior surface of the womb. These tumors steadily enlarged until the uterus was lifted entirely out of the pelvis. Excepting the results of mechanical pressure, the patient's health was excellent, and menstruation was undisturbed.

"April, 1885, the ergot was discontinued. Owing to the sub-peritoneal character of the fibromata, their growth was uninfluenced by the drug."

The growth of the tumor in the last two years has been slow but progressive. In the last six months it caused no special symptoms beyond vague supra-pubic pains at times.

In May, 1886, thirteen months after the stopping of the use of ergot, Dr. Knox was again summoned to attend her for a distressing nausea. At the same time the menses, which had never been excessive, ceased. Mammary changes supervened.

In the ensuing three months the tumor grew rapidly. To Dr. Knox must be ascribed diagnostic skill of the highest order in determining the presence of pregnancy in such a mystifying condition of things. He decided that she must be pregnant, and awaited the expiration of the first three months to produce an abortion, hoping thereby to induce involution to such an extent as, at least, to arrest the rapid increase in the growth of the tumor. Accordingly, on August 1, 1886, when the three months had expired, he introduced a sound into the uterus four inches. Its withdrawal was followed by a small amount of blood, the nausea and vomiting ceased, and the mammary symptoms disappeared. Nothing further ever followed indicating the previous existence of pregnancy or an abortion, and the conclusion was reached that conception had not occurred.

The rapid encroachment on the abdominal organs was progressively killing her. Her strength had greatly diminished. For six months she gradually emaciated. Her sufferings from the pressure of the tumor were great, and eventually led to her giving up and remaining in bed nearly all the time, because she thus experienced the most comfort. In addition she was easily put out of breath by exertion.

Forty hours before the operation she had a free purge, and twenty hours later she went to the Presbyterian Hospital to remain overnight, to receive a bichloride of mercury bath and to have her pubes shaved.

At the time of the operation she presented the following measurements:

1. Girth at the umbilicus, 31 inches.
2. From ensiform cartilage to umbilicus, 7 inches.
3. From umbilicus to symphysis pubis, 6.5 inches.
4. From either ant. sup. spin. proc. to umbilicus, 7 inches.

From external examination it was found that the tumor extended from the right iliac fossa across the abdominal cavity in a straight line to the spleen. Its length was, apparently, double or treble its width. It was freely movable, free from adhesions, and solid. It presented great tenderness in the right iliac fossa.

Per vaginam the *cervix uteri* was found very high up in the left iliac fossa and the *fundus uteri* was apparently thrust into the right iliac region. The whole tumor moved with the uterus. A very small resiliency offered to conjoined manipulation led me to think that I had to do with a *fibro-cystic tumor of the uterus.* The sound entered the uterus four inches and seemed to pass towards the umbilicus.

Just before commencing the operation a sound introduced into the bladder showed that this viscus was not enlarged by being drawn up out of the pelvis by the growth of the tumor.

At the same time the sound was introduced into the uterine cavity and entered only four inches. It had to be bent at an obtuse angle to make it engage in the cervical canal. Its introduction was attended with a small hæmorrhage, which subsequently was the innocent cause of severe but brief alarm.

The instruments used in the operation were dipped in a five per centum solution of carbolic acid, and subsequently

kept in a two per centum solution of the same agent when not in actual use. No spray was used. The sponges were antisepticised with carbolic acid. The details of the operation were simplicity itself. The incision began one inch above the umbilicus and extended down to within an inch and a half above the pubes. It was carried to the left of the umbilicus and measured six inches. Upon exposing the tumor it was found wholly free from adhesions. It extended to, and pressed upwards, the spleen. It was oblong, its length being about treble its width. It was situated obliquely across the whole abdominal cavity. Its upper end was easily turned out of the abdomen, and the whole mass was lifted out of its bed. Its smooth, red surface nowhere indicated the outline of the uterus. Its lower end seemed to be one solid mass of pedicle extending completely across the whole inlet of the pelvis from side to side. The laminæ of the right broad ligament were separated in the most conspicuous manner that I ever beheld. The two ovaries were attached to the mass on a level with the umbilicus, having been lifted completely up into the abdominal cavity.

After button-holing the capsule of the tumor as low down as was practicable, it was peeled off as far as the finger could reach right and left, and ligatured in small masses in two places an inch or more apart and then divided between the ligatures. In this way all of the capsule that could be secured in ligatures and cut was soon treated, and the hæmorrhage from the operation was barely worth mentioning. The right uterine artery, which was much enlarged, was torn across and quickly secured. All of the spermatic and uterine arteries were secured with double ligatures of No. 14 silk. Thus the apparently large pedicle was much

reduced in size and was found to be about equal to the normal *corpus uteri.*

Around this mass was placed a Kœberlé's *serre-nœud,* which was properly tightened, and the tumor excised. Small vessels were then secured. The clamp was then slowly loosened and the vessels of the stump were tied.

The cervical canal was conspicuously visible in the center of the stump. It was drawn up by a vulsellum as tautly as possible and excised for the length of at least one inch. The piece removed was cone-shaped, with its base upwards. Six stitches were then used, from side to side, placed so that when tightened the peritoneum was accurately brought together over the top of the stump. They were tied as tightly as they could be drawn. All further bleeding was attended to *secundam artem,* and the abdomen closed with nineteen stitches. The initial incision was made at 10:30 A.M., the stitches were begun at 11:42 A.M., and the operation was completed at 12:01 P.M.

She rallied from the operation in a few hours. For a period of four days afterwards she had a most intractable vomiting. After feeding by the rectum and permitting absolutely nothing to pass her lips, this troublesome symptom slowly diminished and gradually disappeared, but not until she had acquired a slightly pinched condition of the *alæ nasi,* which brandy caused to disappear. On the third day an offensive odor proceeded from the vagina. A carbolized solution permanently corrected it. It must have arisen from decomposition of the small amount of blood provoked by the introduction of the uterine sound.

Thereafter naught especially eventful occurred to direct attention to, excepting the following points :

1st. The patient never had an alvine dejection after the operation. Flatus passed only after the colonic distension permitted it, through a rectal tube. Repeated efforts were made to secure defecation, without result.

2d. At no time after the operation did she have a chill or sweats. The days were very hot and her greatest comfort was in being gently fanned and in dabbling her hands in a bowl of water placed at her side.

The following record of pulse, temperature and respiration was kept till the death of the patient, which occurred eleven days and nineteen hours post operation.

August 8.—5 P.M., P. 128, T. 101°, R. 18; 8 P.M., P. 120, T. 100.8°, R. 16; 10.45 P.M., P. 120, T. 100.2°, R. 20.

August 9.—8.45 A.M., P. 110°, T. 99.6, R. 20; 12.30 P.M., P. 116, T. 100°, R. 16; 8 P.M., P. 116, T. 100.3°, R. 24.

August 10.—10 A.M., P. 118, T. 100; 4 P.M., P. 112, T. 99.3°, R. 26; 8 P.M., P. 110, T. 99.5°, R. 22.

August 11.—8 A.M., P. 124, T. 100.5°, R. 22; 2 P.M., P. 110, T. 99.7, R. 18; 8.30 P.M., P. 128, T. 100.7°.

August 12.—8 A.M., P. 114, T.99.5°, R. 18; 2 P.M., P. 112, T. 98.7°, R. 17; 8 P.M., P. 114, T. 99.5°, R. 14.

August 13.—7 A.M., P. 114, T. 99.8°, R. 14; 4 P.M., P. 108, T. 99.6°, R. 14; 8 P.M., P. 114, T. 100.3°, R. 14.

August 14.—7 A.M., P. 112, T. 100.9°, R. 14; 2 P.M., P. 112, T. 99.8°, R. 16; 8 P.M., P. 116, T. 99.5°, R. 18.

August 15.—8 A.M., P. 120, T. 99.°, R. 16; 4 P.M., P. 116, T. 99.5°, R. 16; 8 P.M., P. 114, T. 99.4°, R. 16.

August 16.—8 A.M., P. 112, T. 100°, R. 14; 4 P.M., P. 108, T. 100.6°, R. 14; 10 P.M., P. 112, T. 100°, R. 16.

August 17.—8 A.M., P. 110, T. 99.4°, R. 16; 4 P.M.; P. 120, T. 99.6°, R. 16; 8 P.M., P. 120, T. 99.8°, R. 16.

August 18.—6 A.M., P. 118, T. 101.5°; 12.30 P.M., P. 114, T. 101.6°, R. 14; 8 P.M., P. 124, T. 102.8°, R. 18; 10 P.M., T. 102°; 11:50 P.M., T. 103.2°.

August 19.—1 A.M., T. 102°. Death at 6:45 A.M.

The autopsy was made thirty-two hours after death, and revealed a pelvis filled with fluid consisting of blood and pus. The small intestines were agglutinated over the pelvic inlet, almost hermetically. The surfaces of the small intestines turned towards the cavity of the pelvis presented a condition of sphacelus approaching demarcation. The pelvic cellular tissue was completely honeycombed with pus cavities. The stump presented a shrunken appearance, as though all of the stitches had been loosened, yet no pelvic fluid had found its way into the vagina through the cervical canal. The patient had succumbed to septicæmia. I regret that I did not drain.

Examination of the tumor revealed the fact that it was a multilocular fibroma, and that it grew from the anterior wall of the *corpus uteri*. The cavity of the uterus was found on a level with the umbilicus and contained a three months fœtus in unruptured membranes, evidently alive up to the time of operation. The cervical canal was 5½ inches long, which fact explains the immunity of the membranes from puncture by the introduction of a sound only four inches. The canal resembled the letter U, with its legs pulled apart, starting from the extreme left iliac fossa at the *os uteri* it passed towards the umbilicus two inches, and was then deflected at an obtuse angle towards the spleen.

Upon laying open the uterine cavity it was found to be in appearance a cavernous hollowing out of the posterior sur-

face of the tumor. In front of it was nearly the whole width of the tumor. Its posterior boundary was a wall of uterine tissue thinner than the normal, unimpregnated posterior uterine wall. It was situated in the middle of the tumor.

The membranes presented a leaden, grayish appearance, and were filled with fluid, its smooth, undulating surface, in contrast with its nodular surroundings, looking not unlike the surface of "The Devil's Punch Bowl" on the top of Mt. Mangerton.

The fœtus was a male. Its cord was seven inches long and was normally attached.

Microscopic examination of the tumor by Dr. Ochsner shows its character to be purely *fibromatous*. Its weight was about ten pounds.

Remarks.—The removal of fibroid tumors which are slowly but surely killing patients has now passed into the category of recognized and justifiable operations. The astonishing successes of Keith in removing them are sufficient guaranty of justification for removing such growths under proper conditions.

But the complication of large fibrous tumors of the uterus with pregnancy presents the gravest possible condition for the surgeon's consideration. Conception seemed to give an impulse to the rapidity of the growth of the tumor under consideration that was very surprising. The arrest of its growth or its removal were the two horns of the dilemma. Against the production of abortion there are serious objections. It is followed by disproportionately great dangers and cannot possibly lessen the size of the growth materially.

The possibility of uncontrollable hæmorrhage from the seat of the placenta on a non-contractile mass of tumor must be faced in producing an abortion. In addition the dangers of septicæmia from puerperal disintegration of the tumor are not to be forgotten. While running the two risks of hæmorrhage and septicæmia from producing an abortion there is the very great possibility of avoiding a future extirpation of the whole mass by inducing a cessation of growth of the tumor, or even possibly by inducing a greater or lesser involution of the growth. The examination of the tumor shows conclusively that the uterus could never have extruded the fœtus and its adnexa through the elongated cervical canal because of the inutility of the uterine muscular fibre through fibromatous degeneration. Consequently abortion would in all probability have proven fatal through septicæmia. I am thoroughly convinced that the patient could not have lived many weeks longer without the death of the fœtus, when the overwhelming disaster of fatal sepsis would have speedily ensued without any compensatory explanation short of an autopsy, since the idea of pregnancy was about abandoned because abortion failed to occur; and the non-appearance of the fœtus *per vias naturales* would afford no satisfactory evidence of what had occurred, but, quite to the contrary, would have rendered a mysterious case much more mysterious. In such an event, *sine autopsia*, the pathological reasoning would have been that spontaneous necrosis of the fibroma had occurred and septicæmia followed.

References.—Hegar and Kaltenbach report six cases in the third edition of their "*Operative Gynecology*," 1886, as follows :

Author.	Date.	Time of pregnancy.	Character of Tumor.	Result.
Kaltenbach	March 2, 1880	Fifth month	Myoma	Recovery
Wasseige	March 18, 1880	Fifth month	Myoma	Death 6th day
Nieberding	May 10, 1882	Fourth month	———	Death 40 hours P. O.
Schroeder	June 10, 1884	Third month	Myoma	Recovery
Schroeder	June 21, 1884	Third month	———	Recovery
Walter	——— 1883	Fourth month	Colloid	Death 9th day

CASE 7.—Dr. H. R. Storer amputated the pregnant uterus, in a primipara, æt 37 years, after three days of labor had passed, for a fibro-cystic tumor. The pedicle was constricted by a double metallic ligature and kept outside. The patient died in seventy hours of septicæmia. (*Journal of Gynecological Society of Boston*, October, 1869, p. 223.)

CASE 8.—Prof. S. Tarnier, Neuilly, France, on February 24, 1879, removed the uterus from a primipara, æt. 33 years, for a fibrous tumor of the uterus, after the patient had been in labor seven days. Condition of the patient at the time of operation very unfavorable. The fœtus was putrid, gas in the uterus having been found. Pedicle was kept out with a metallic pin and metallic ligature. Patient died of septicæmia on third day. (*Annales de Gynécologie*, August, 1879, p. 81.)

CASE 9.—Dr. Zweifel, of Erlangen, Germany, on July 31, 1880, removed, from a primipara, æt. 37 years, the uterus, several hours after labor began, because of a fibroid tumor in the cervix. Patient died on the sixth day of septicæmia. The pedicle was tied with double silk ligature. (*Archiv. für Gynäkologie*, B. 17, H. 3.)

CASE 10.—Prof. Cataliatti, of Palermo, Italy, on October 28, 1880, removed the pregnant uterus from a primipara, æt. 41 years, for an interstitial fibroid of the posterior uterine wall soon after the inception of labor. The pedicle was kept outside with wire ligature and transfixed with metallic

pin. Recovery followed. (*Bulletin dell. Academia di Medicina di Palermo*, 1880.)

CASE 11.—Dr. L. Prochownick, of Hamburg, Germany, performed hysterectomy, April 21, 1881, on a primipara, æt. 40 years, at seventh month, about twenty-four hours after the discharge of the liquor amnii, for a fibromyoma of the uterus impacted in the pelvis. The pedicle was held out of the abdomen with Péan's constrictor, two long pins, and stitched to the lower angle of the wound. The patient died in sixty hours p. o. from septicæmia. (*Deutsche Medicinische Wochenschrift*, No. 40, 1882.)

CASE 12.—Dr. Fochier, Lyons, France, on November 23, 1882, amputated the uterus at term, after the patient had been in labour three days, for a fibroid in the uterine cervix. Recovery followed. It was her fourteenth pregnancy. The pedicle was kept out in the lower angle of the wound. (*Lyon Méd.*, May 20, 1883.)

CASE 13.—Dr. M. Hanfield Jones reported in *Transactions of the Obstetrical Society of London*, vol. xvii, 1886, the case of a woman at term in whom delivery was impossible because of a subperitoneal fibroid in the true pelvis. The entire uterus and its appendages with the tumor was removed and the cervix clamped. The patient died of peritonitis on the third day.

CASE 14.—Amputation of the pregnant uterus at term, by Dr. M. Hofmeier, for fibroid tumor in the pelvic cavity. Reported by Dr. P. F. Mundé in the *American Journal of Obstetrics*, September, 1886, vol. xix, p. 905. Mother and child both saved.

CASE 15.—Large pediculated subperitoneal fibroid. Pregnancy, two months. Removal of tumor, uterus and ovaries.

Result not stated. Operator, Meredith. Reported in the *American Journal of Obstetrics*, September, 1886, p. 923.

PROFESSOR CHARLES T. PARKES read a paper entitled

II.—SUCCESSFUL REMOVAL OF THE UTERUS FOR FIBROIDS.

Mrs. L., an American lady, 37 years old, was first examined by me March 11, 1886. She had been married about nine years, but had never been pregnant. The consultation was held for the purpose of getting relief from an abdominal tumor, which first began to show evidence of its existence some three years ago. The first symptoms noticed was a burning pain in the right side, which continued with greater or less severity for about six months, when a small painless tumor was recognized deep in the right groin. This growth continued to enlarge steadily until she saw me, without any exacerbation of rapidity, until during the last six months, when it has grown more rapidly and its volume has increased to a greater extent than during the entire previous period of its history. Lately also the patient has lost rapidly in strength and flesh. There has been no interference with menstruation, that function being performed normally the entire time.

The tumor has seemed to diminish in size during menstruation, at least the feeling of fullness was lessened at those periods. The mammæ have not shown evidence of change of any nature. The right leg has swollen slightly for short periods of time and been the site of considerable neuralgic pain. On inspection the abdomen was evenly distended by a symmetrical tumor, occupying a central position and reaching close to the *appendix ensiformis;* the respiratory acts make no impression upon it. Palpation determined the presence of considerable free fluid in the peri-

toneal cavity and an indistinct, uncertain kind of fluctuation in the tumor itself. There was well-marked resonance surmounting the upper half of the tumor. The mass itself was quite tender to the touch. Vaginal examination revealed the os high in the pelvis, centrally located, with a small mass behind it, seemingly continuous with it, which was supposed to be the retroverted uterus. The free abdominal fluid rendered this examination unsatisfactory. No sound was passed. No positive diagnosis was made, but the supposition favored an ovarian growth. The patient desired an early operation.

She was advised to remain quietly in bed and to take such medicines as would probably lead to removal of the ascites. These instructions were carried out, and the second and final examination was made April 11, 1886. The patient was very much reduced in flesh and very anæmic, all the mucous surfaces exceedingly bloodless. Examination showed the peritoneal fluid entirely removed—the tumor standing out freely and prominently for inspection on all sides. It still seemed to give rise to fluctuation; palpated by several medical gentlemen, the testimony of all was that it contained fluid. To pressure the sensation was that of elasticity. Vaginal examination now showed plainly that the uterus was incorporated with the tumor; the sound went directly into it for five inches. On the posterior surface two small tumors were now plainly felt; the largest of them was supposed to be the retroverted uterus at the first examination. The diagnosis now was a uterine tumor.

The operation for removal was done at the Presbyterian Hospital, April 13, 1886, in the presence of Drs. Gunn,

Etheridge, Graham, Adolphus, Mitchell, Ochsner and others. An incision was made in the *linea alba* from the umbilicus to the pubes and the tumor exposed. It showed a white, glistening surface, very much like a cyst, and seemed to contain fluid. The introduction of the trocar was not followed by any flow of fluid, and during the manipulations the tumor changed to a darkish-red color. This change of color upon manipulation I have seen occur on other occasions, and its occurrence is a very sure indication of a uterine tumor. The incision was prolonged several inches above the umbilicus and the mass turned out of the cavity. After ligating and compressing the broad ligaments with forceps they were divided and the uterus cut through three-fourths of an inch above the cervico-vaginal junction. Paquelin's cautery was used to disinfect and destroy the cervical canal and to sear the uterine stump. It was also applied freely to the edges of the divided broad ligament on both sides. This controlled perfectly all hæmorrhage, except from two spurting arteries on the opposite lateral edges of the uterine stump; these were isolated and tied separately. All ligatures were of carbolized silk. A large rubber drainage-tube was carried to the bottom of Douglas's *cul-de-sac* and the extensive abdominal wound closed by eighteen sutures.

The patient was put to bed considerably collapsed, but rallied well, and as the record shows until she left for her home, May 30, never had a temperature of 100° F. There still remains a small sinus at the site of the drainage-tube, discharging about 1 dram of sero-pus in twenty-four hours. One of the silk ligatures has been discharged through it. The lady has gained flesh and strength rapidly, and is free

from a trouble which was rapidly robbing her of all comfort in life and hastening her death.

The drainage-tube did excellent service in this case, allowing the exit of large quantities of bloody serum for many days after operation. In my practice its use has always served a good purpose when large raw surfaces were left in the abdominal cavity from whatever cause.

In spite of the absence of rise of temperature I have never managed an abdominal section in which the external wound did so badly. The main portions of the skin united by first intention, but a large abscess formed in the sheath of the rectus muscle, the pus from which extended from one end to the other of the wound; the nozzle of the irrigator introduced at one extremity of the wound and the carbolized water turned on, caused the pus to flow out freely from the opening at the lower end; the peritoneal edges united firmly at once and so saved trouble from this source.

It was slow in healing, several weeks, but finally united very soundly. The patient's very feeble vitality may account for the bad course taken by the wound. The wound was dressed, as I have been in the habit of doing for years, absolutely dry, with absorbent cotton and iodoform. My experience with these cases rather confirms a supposition that the frailest and weakest patients are the ones most likely to recover.

At the time of removal the tumor weighed fourteen pounds. Even after removal many gentlemen present were convinced from its consistence that it contained a cavity holding fluid, so very deceptive was its elasticity.

DISCUSSION.

PROFESSOR J. S. KNOX said: I want to call attention, in the case reported by Dr. Etheridge, to the rapid development of myomata after the establishment of pregnancy. I have two other cases of uterine fibroid that came under my care about the same time as the patient reported by Dr. Etheridge and who were treated similarly, and in whom also menstruation was not disturbed. They are still in perfect health, and the probabilities are that when they die it will be of some other disease; one being a widow, the other an unmarried woman. The growth of this myoma before us was slow but persistent, in spite of the use of ergot, and until the time the menses ceased and pregnancy commenced, the woman enjoyed perfect health, all unfavorable symptoms appearing within three months preceding operation. Another fact I would like to call attention to is the danger of abortion in such cases. With the consent of Dr. Etheridge, I delayed any operative procedures until the woman had reached the full three months of pregnancy, that I might produce an abortion; I introduced the sound with great difficulty, and passed it up full four inches; it produced considerable hæmorrhage, which continued for about three days. The nausea ceased immediately and the patient noticed a diminution of the size of the breasts and lost the sense of fullness of the abdomen. Her appetite returned and she took a great deal of nourishment, which improved her physical condition very much: a strange result, seeing the abortion was not accomplished. In opening the tumor after its removal, I was satisfied that if I had produced the abortion the woman would probably have died of sepsis or hæmorrhage. There was no possible outlet for the contents of the

uterus, and I think it was a fortunate thing that we did not succeed in accomplishing the abortion. Under similar circumstances I would prefer hysterectomy with its risks to abortion with its risks.

PROFESSOR E. C. DUDLEY said: Notwithstanding the general principle established by ovariotomy that the extra-peritoneal method is in itself dangerous, and that it should consequently be avoided whenever perfect intra-peritoneal hemostasis can be secured, and notwithstanding the fact that this general principle should stand for all operations involving the removal of abdominal tumors, yet the best statistics of the intra-peritoneal method in hysterectomy show a mortality of 30 or 40 per cent, while Keith and Bantock, with the clamp or *serre-nœud*, have a mortality of only 10 or 15 per cent. Now if it be true that certain dangers are inseparable from the extra-peritoneal method, it follows that part of this 10 or 15 per centum of mortality must be in consequence of it, and that the statistics might still further be improved if by some means an intra-peritoneal ligature could be applied which would give the same security against hæmorrhage and permit operators to dispense with the clamp. But the dangers of the silk ligature are greater than those of the clamp, because, however thoroughly applied, and however carefully the stump be stitched together, shrinkage of the stump from the escape of serum almost always occurs within a few hours, with consequent loosening of the ligatures and hæmorrhage, which may be fatal at once from great loss of blood, or later from septicæmia. The indication clearly is for an elastic ligature capable of following up the shrinking stump and of securing thereby permanent hemostasis. India rubber fulfills this indication, and if properly applied is capable of becoming readily

and safely encysted. The experiments of Löwenhardt and Hallswachs, together with the numerous operations of Olshausen and others, give good evidence that the India-rubber tube when dropped into the abdomen is free from danger. It is true that certain cases have been reported in which sloughing of the pedicle has followed the application of the elastic ligature with resulting abscess, but this occurs in consequence of using a ligature of any material so large that it cannot imbed itself in the stump, and thereby permit the surface to close over it so as to secure the prompt establishment of collateral circulation to the distal portion of the stump.

Not very long ago the question was raised whether in supravaginal amputation it is necessary to remove the ovaries at the same time—a question to which experience has given an affirmative answer. Péan has observed a case of catamenial hæmatocele, Hegar a case of extra-uterine pregnancy and Kaltenbach a case of distressing molimen recurring monthly in consequence of leaving the ovaries after hysterectomy; therefore, unless the patient has passed the monopause, they should if possible be removed on principle.

DR. H. T. BYFORD said: I would like to ask whether such ligatures as Dr. Dudley speaks of could be prepared beforehand? [Dr. Dudley: You might prepare 300 of different lengths and select the one you want.] With such a quantity of fresh ones on hand one could undoubtedly find one to use. Schroeder's later percentages are, I believe, a little more favorable than Dr. Dudley seems to think, and enable him to claim, with some degree of reason, that his intra-peritoneal method is the best.

THE PRESIDENT said: One word in relation to the remarks of Dr. Dudley concerning ligature: The shoemakers' stitch, using the silk ligature, was introduced in 1881, by Dr. Marcy,

of Boston. I am not informed how many times it has been used. It comes nearer obviating the difficulties of the silk ligature, I think, than any other plan in use. His method is sewing the cervix with the shoemaker's stitch. One end of the silk ligature is carried through by a strong needle threaded at the point and mounted in a handle. This is then unthreaded and the other end threaded, bringing this through as the needle is withdrawn. In this way both ends of the suture lie in the same opening in the tissues, though running in opposite directions. Other stitches, as many as may be needed and as near together as is deemed necessary, are inserted in the same way.

This is a continuous suture, and consequently more elastic than the ordinary suture, and there is but one knot, at the termination of the suture, and if there seems to be danger from hæmorrhage a second row of sutures may be put in at right angles to the first. In the cases I have known with this suture there has been no difficulty from hæmorrhage or sepsis. The tumors were not large, and perhaps that explains the success of the method. I have never had an opportunity of trying it. It seems to me very desirable to use silk if we can to stop the hæmorrhage or oozing from the vessels. I don't exactly know Schroeder's plan of using the double row of stitches, whether it is substantially this method or not. One thing further which Dr. Merriman has touched upon, and which we should all profit by, viz.: that when there is evidence of sepsis, slight or considerable, we should open the abdominal wound. In all the autopsies I have made after these operations where sepsis has been the cause of death, I believe they could have been saved if the wound had been opened and properly treated three or four days before the death of the patient.

DR. H. P. MERRIMAN said: I was so fortunate as to be present at Dr. Etheridge's operation. One point that he did not mention is that after the removal of the tumor and after the use of the ligatures, which he applied to each artery by itself, and not in one mass around the pedicle, the pelvis was entirely dry, so much so that when the question of a drainage-tube came up, I believe every one present said they could see no reason for its use. There was no exudation. The sponge came out hardly colored after it was placed in contact with the surface that had been denuded, and there was apparently no need of drainage, yet afterward we had oozing from this surface and the formation of bloody serum in the cavity, with septicæmia as a result. I was present at the autopsy, and am convinced that had a drainage-tube been used this patient would have recovered. I don't know but that if after eight or nine days, when the symptoms began to show septicæmia, there had been an opening of the cavity, the septic material might have been removed and the case have had a fortunate termination. The danger seems to me to come from septicæmia rather than from any direct loss of blood there may be from hæmorrhage, although I can see that there might be, even with the drainage-tube, sufficient exudation of the parts to exhaust the patient and produce a fatal termination. There was one thing that struck me with considerable interest, and I don't know what bearing it may have. She had taken ergot uninterruptedly for a year with a general improvement of her health; after this use of the ergot she became pregnant for the first time in her eight years of married life. Was it a coincidence or was there some relation between the use of ergot and pregnancy?

PROFESSOR C. T. PARKES said: I am very much interested

in this discussion, as it has brought up the question of how to treat the pedicle. Out of five hysterectomies that I have done, four by the intra-peritoneal and one by the extra-peritoneal method, the one that was treated by the elastic ligature died quicker than any of the rest. I am not favorably impressed with it, and think it is an unsafe ligature to use because it never ceases acting; it succeeds in stopping bleeding, but it is apt to stop all circulation, and in quite a number of these cases the portion beyond the ligature sloughs and you have a sloughing wound, and may have the slough lodging in the peritoneal cavity. In the case just referred to the stump of the uterus sloughed and was a stinking, decomposing mass on post-mortem examination. Another objection I have to this ligature is that it can be applied only to the uterus, the stump itself. There are many cases where, from one circumstance or another, you are led to operate and in which the tumor does not always have a pedicle that can be embraced by any ligature. The plan that I have used for a number of years in employing the elastic ligature for other purposes, is to draw it taut and tie the ends together with silk. By fastening the ligature while tightly drawn, you can cut the ends fairly short and have no knot at all. The plan I adopted in the operation reported tonight, was a combination of the silk ligature and the cautery. I believe it to be the best method. I was very much impressed on reading Dr. Keith's recent work on uterine tumors, by an expression in reference to the treatment of the pedicle. He now treats it almost entirely by the extra-peritoneal method, but thinks the intra-peritoneal will be the coming method, the pedicle being secured by some application of the cautery to the divided surfaces. This is the best method for controlling hæmor-

rhages. Often there will be certain spots where arteries of some size come up through the tissue, and perhaps an isolated ligature will have to be applied to them. I don't believe that any wound in the peritoneal cavity that is at all extensive in character, should be left without drainage. I have been satisfied, in the cases that have come under my observation, that one of the main causes of death has been from the neglect of this precaution. When I have divided a large surface, whether I have a dry cavity or not, if that surface is free in the peritoneal cavity, I shall use drainage. I do not think that it is possible to make any comparison between laparotomies for uterine tumors and ovarian tumors. There never will be the same conditions and the proportion of recoveries will never be the same. Dr. Keith does not pretend to say that one out of fifty of the cases that come to him are subjected to operation. I believe the proper method of controlling hæmorrhage and treating the stump in uterine tumors is by the combination of the silk ligature and searing the stump. The heat of the cautery I use is always a dark red. I have always adopted the plan of putting on to the stump that is to be seared the compress forceps or clamp, leaving a quarter of an inch of the tissue above it, and burning that down close to the forceps until it is perfectly smooth. I have always drained through the external wound, normally the abdominal cavity is closed and abhors any abnormal effusion; the elasticity of the walls and viscera presses it out if an opening be present.

PROFESSOR BARTLETT asked with reference to a case of double ovariotomy: At the time of the operation it was noticed that notwithstanding active purgatives had been used previously, the descending colon was full of hardened fæces;

she subsequently developed obstruction of the bowel and it was impossible to get any motion at all. I examined the rectum high up, found a tight stricture, and got the bowels emptied after this was forcibly dilated.

W. W. JAGGARD, M.D., *Editor.*

2330 Indiana Avenue, October, 1886.

THE AMERICAN ACADEMY OF MEDICINE

Held its Tenth Annual Session at Pittsburg, Pa., on October 12 and 13, 1886.—The meeting was called to order by DR. R. STANSBURY SUTTON, the President.

After considerable routine business, a paper was read by R. J. Dunglison, A.M., M.D., of Philadelphia, on "The Laws Regulating Practice in the Different States."

F. N. Gerrish, A.M., M.D., of Portland, Maine, followed with a paper. Subject, "The Best Equipment for Medical Study."

The special committee appointed to report on the best preliminary education for medical students next made its report. The chairman, F. N. Gerrish, A.M., M.D., spoke strongly in favor of a classical education for all students, and referred with feeling to the prostitution of the medical profession by colleges which were little more than mere speculators.

John D. Kelley, A.M., M.D., of Lowville, N. Y., presented a report on "The Status of Medical Education in the United States."

L. P. Bush, A.M., M.D., of Wilmington, Delaware, read a paper on "The Advantages of a Classical Education to the Medical Student and Physician." He took decided ground in favor of a classical education. W. H. Pancoast, A.M., M.D., of Philadelphia, thought that too much Latin and Greek were

studied at a tender age. He thought youths should study more French and German. He referred to the German system of education, and said they are the most classical students in the world.

J. Cheston Morris, A.M., M.D., of Philadelphia, next read on "Prolonged Gestation," relating interesting cases.

A paper by Traill Green, A.M., M.D., Easton, Pa., "The Duties of Physicians to Each Other," was deferred to the annual meeting next year.

A. C. Kemper, A.M., M.D., Cincinnati, presented a paper entitled "A Christian Education the Best Preparation for the Practice of Medicine," which was read by the Secretary.

Henry O. Marcy, A.M., M.D., of Boston, presented a paper asking, "Is Modern Wound-Treatment Scientific?" It was read by the Secretary.

Virgil P. Gibney, A.M., M.D., of New York, read a paper on "Treatment and Management of Tubercular Spondylitis."

Nathan Allen, A.M., M.D., Lowell, Mass., presented a paper on "Physical Culture in Amherst College." He favored gymnastics over feats of ball, rowing, etc., which only developed certain muscles. It was read by the Secretary.

The following new members were elected: J. G. Sloane, A.M., M.D., Monongahela City; M. H. Borland, A.M., M.D., Pittsburg; C. H. von Klein, A.M., M.D., Dayton, Ohio; A. B. Threasher, A.M., M.D., Cincinnati; Phillip Zenner, A.M., M.D., Cincinnati; Richard Hogsden, A.M., M.D., Abington, N. Y.; W. B. Canfield, A.M., M.D., Baltimore; E. Wing, A.M., M.D., Chicago; L. Curtis, A.M., M.D., Chicago; R. I. Buntley, A.M., M.D., Pittsburg; S. D. Jennings, A.M., M.D., Allegheny; W. D. Kearns, A.M., M.D., Pittsburg; John Dubb, A.M., M.D., Pittsburg; N. J. R. Klein, A.M., M.D., Greensburg, Pa.; W. C. Shaw A.M., M.D., Pittsburg; J. C. Connell, A.M., M.D., Pittsburg.

N. S. Davis, M.D., LL.D., Chicago, was elected an honorary member.

The Nominating Committee reported the following names:

President—L. P. Bush, A.M., M.D., Wilmington, Delaware.

Vice-Presidents—R. L. Sibbett, A.M., M.D., Carlisle, Pa.; S. J. Jones, A.M., M.D., Chicago; P. S. Connor, A.M., M.D., Cincinnati; V. P. Gibney, A.M., M.D., New York.

Secretary and Treasurer—R. J. Dunglison, A.M., M.D., Philadelphia.

Assistant Secretary—Charles McIntyre, Jr., A.M., M.D., Easton, Pa.

The next annual meeting will be held in Washington, D. C., on September 2 and 3, 1887.

BOOK REVIEWS.

BRIGHT'S DISEASE AND ALLIED AFFECTIONS OF THE KIDNEYS. *By* CHARLES W. PURDY, M.D., *Queen's University, Professor of Genito-Urinary and Renal Diseases in the Chicago Policlinic, etc. 8vo, pp, 288, with 18 illustrations. Philadelphia:* LEA BROTHERS & CO., *1886. Chicago:* A. C. MCCLURG & CO.

This work is nicely gotten up; is printed upon good paper, in clear, handsome type, and for a first edition is remarkably free from typographical errors.

We believe it is the author's first venture into the realm of book-making, although he has been a frequent contributor to medical journals. We congratulate Dr. Purdy, first, because he writes such clear, terse, straightforward

English, and, secondly, because he has succeeded in writing so excellent a work on "Bright's Disease and Allied Affections of the Kidneys." The work is divided into nine (9) chapters, as follows: (1) Albuminuria: (2) Uræmia: (3) Acute Nephritis: (4) Chronic Nephritis: (5) Cirrhosis of the Kidneys: (6) Scarlatinal Nephritis: (7) Puerperal Nephritis: (8) Lardaceous Degeneration of the Kidneys, and (9) Cyanotic Induration of the kidneys.

In the first chapter we find a very clear statement of the present doctrines regarding albuminuria, together with explicit directions as to the modes of testing for albumen. The chapter closes with advice on the hygienic treatment of albuminuria, which we have read with pleasure and profit, but the subject of "Renal Casts," which is discussed in these chapters—but why, we can hardly see—receives, according to our way of thinking, very inadequate treatment. In a little more than two pages the author condenses all he has to say concerning renal casts. It is undeniably true that the tube-cast is capable of imparting more and more accurate information as to the actual state of the renal tubules in Bright's disease than can be obtained in any other way. Hence the vast importance of the careful study. Hence, also, the necessity of extended descriptions of their varied phases in our text-books. We are, therefore, fully warranted in entering a good-natured protest against Dr. Purdy's book, in which he discusses so important a subject in a manner so unsatisfactory.

The chapter on "Uræmia" is excellent from first to last. For the general practitioner it is one of the best articles on uræmia that we have ever seen. We do not subscribe very heartily to the author's doctrine of giving "subcarbonate of

iron in large doses—twenty to thirty grains—and repeated every three hours," as a means of "preventing or lessening the intensity of the convulsions," nor do we consent by any means to allow New York to claim the credit of having "demonstrated" that morphia can be used hypodermically or otherwise in anæmic convulsions, since we have so used it for ten years past, and always in response to sound therapeutic indications.

The two following chapters on "Acute and Chronic Nephritis," respectively, are quite up to the times in all regards, and are really models of clear, concise composition. They are admirable reading for the young practitioner who encounters his first case of acute or chronic Bright's disease without much clinical experience, since they are characterized by clear descriptions of the diagnostic phenomena as well as definite and well considered rules of therapeutic procedure. We would modify the term "Nephritis" by some title less general and more definite, as "Tubal," or "Parenchymatous" Nephritis. On physiological grounds we think strong objections can be urged against the practice urged by Dr. Purdy and others, of "rendering the urine alkaline and maintaining it so by the administration of a saline," for the purpose of dissolving renal casts, which obstruct the tubules, but we have not time or space to consider the subject now.

Perhaps the crowning chapter in the book is the one on "Scarlatinal Nephritis," which may be ranked as a classic article on this formidable disease. We should like to quote it entire, but being unable to do that, we must be content with saying that it is justly entitled to great praise as a careful, well-considered and well-written article upon a most

important and interesting subject. Finally, we commend the book to the profession as an admirable treatise on an important class of diseases, which are too little understood by the general practitioner. We have pointed out a few, and we think all, of its faults; its excellences are so many that we cannot even enumerate them. It is not only a Chicago book, but it is the work of a personal friend, and as such we extend to it a hearty welcome. I. N. D.

AN INTRODUCTION TO GENERAL PATHOLOGY. *Founded on Three Lectures delivered at the Royal College of Surgeons, London, 1886, by* JOHN BLAND SUTTON, F.R.C.S., ETC. *Philadelphia*: P. BLAKISTON, SON & CO., *pp. 390.*

The author says, "the object of these lectures is to endeavor to deal with the enormous collection of facts, gathered together under the term Pathology, by the application of the fundamental principles of the doctrine of evolution."

The work might have been called, with propriety, an Introduction to Comparative Pathology, since the author strives to throw light upon the most general pathological processes by examples drawn from all classes of animals. He has been particularly well prepared for this work by his education and constant study of comparative anatomy and pathology. The author has written a book that will be novel as well as exceedingly interesting to most practitioners. Very much light can be thrown upon pathological processes, that in man are dark and obscure, by the study of the same or homologous processes in lower animals, and it is this that our author has striven to accomplish.

The chapters that are particularly interesting are those on

inflammation and tumors. In connection with inflammation the author explains the true rôle of the white blood-corpuscle in promoting absorption of solids by intracellular digestion, as do no other authors of text-books. In regard to the etiology of tumors, he adopts fully Conheim's view that minute islands of embryonic tissue exist and form the nuclei of neoplastic growths. Numerous illustrations are cited that seemingly substantiate this theory.

The last chapter discusses "Pathology and the part it has played in evolution."

The entire book is interesting. The illustrations are new and novel and well chosen. The work therefore deserves to be widely read. N. S. D., JR.

THE PRINCIPLES AND PRACTICE OF SURGERY. *By* FRANK HASTINGS HAMILTON, A.M., M.D., LL.D. *Illustrated with 472 engravings on wood. Third Edition, revised and corrected. pp. 989. New York:* WILLIAM WOOD & CO., 1886. *Chicago:* W. T. KEENER.

In the preface to this edition, dated March 1st, 1886, the author disclaims any attempt to make the work an encyclopædia of surgery, and says that he describes in all the detail required by the practical surgeon, only those methods, which, in his experience, have been the most satisfactory, "or which, after careful consideration, most commend themselves." Since both anæsthetics and antiseptics have come into use during the professional life of the author, he claims the privilege "to institute comparisons, and to draw conclusions." This privilege he has exercised throughout the book as occasions are presented, and also in the concluding chapter on "The Art of

Primary Union," etc. He claims that the following conditions are necessary in order that primary union may occur, viz.:

1. A good, or at least average, state of the general health, and especially the absence of any systemic infection of dyscrasy.

2. The removal of all foreign bodies from the wound.

3. The effusion of coagulable lymph.

4. No unnecessary violence to the parts, from hands, sponges, sutures, adhesive strips or bandages.

The author claims that if the conditions mentioned above are not secured in incised wounds no amount of antiseptics can secure primary union. He does not believe that the use of antiseptics secures primary union by preventing the access of bacteria to the wound. He claims that Lawson Tait and Keith substantially agree with him, as do many other less distinguished men. The argument cannot be even summarized here, but it is clearly and forcibly put, and is entitled to fair and careful consideration by those who do not agree with the author.

The letter-press of the book is exceptionally good. As a practical guide in general surgery it is excellent, and it will stand, together with the lamented author's classical treatise on "Fractures and Dislocations," as a worthy record of a long, a useful and a distinguished professional life.

A MANUAL OF DIETETICS. By J. MILNER FOTHERGILL, M. D., *Edin., Physician to the City of London Hospital for Diseases of the Chest (Victoria Park); Hon. M.D. Rush Medical College, Chicago, Ill.; Foreign Associate Fellow of the College of Physicians, Philadelphia, 8vo, extra muslin. pp. 255. New York:* WILLIAM WOOD AND COMPANY. *Chicago:* W. T. KEENER.

The author of this manual has established a well-deserved popularity among the profession in the United States, which this, his latest, book will in no way diminish. He has been engaged in active practice of his profession for more than thirty years, and, during the last ten, prominently connected with two of the London Hospitals and the Leeds Public Dispensary. His writings have an attractive literary quality of their own, and his opinions never fail to command the respect even of those who occasionally fail to agree with him.

The book is divided into two parts.

The first part treats of the object of food, its forms and their digestion, methods of preparing it, condiments, beverages, stimulants, fluid food, preserved and canned foods, prepared foods, and artificial digestive agents.

This part of the manual is by no means a cook-book, but nevertheless the author has been not only careful to enumerate special dishes, but also to state in a general way how they should be prepared. The discussion of methods of preparation is minute enough for the guidance of any good cook.

The chapters in the second part are short treatises on the proper food in infancy, in adolescence, in adult life, in old age, in acute disease, in convalescence, in gastric affec-

tions, in struma, in anæmia, in constipation and diarrhœa, in phthisis, in chronic heart and lung disease, in Bright's disease, in albuminuria, in diabetes, in glycosuria, in gout, in neurosal affections, for chronic invalids, in obesity, in indigestion, in biliousness, and food given otherwise than by the mouth.

The treatment of the topics included in the table of contents is in strict conformity with the latest physiological knowledge, and is minute enough to form a practical working guide in any form of illness. The author's claim that the dietetics is fully as important as the therapeutics of a case will be denied by few who read the book. His statement that "the time indeed is at hand when systematic lectures on food will be a part of medical education," is that of an enthusiast, but in this part of the world it is as yet not realized.

Beef-tea, as ordinarily made, he classes as a simple stimulant, and refuses it any food-value. His remarks in this connection, on pages 49, 50, 51, 66 and 95 are almost facetious, and the following on page 137 is only too true: "Depend upon it, myriads of our fellow-creatures have perished because those around them did not know how to feed them." And this on page 139: "Where beef tea (as ordinarily made) is given alone on the misapprehension that it is a sustaining food, the system has to exist on its own resources, and too often the patient sinks into a grave not dug for him by disease, but by the ignorance of those who constitute the nurses and attendants."

The practical importance of the subject treated in this little book is far greater than that of many a more ponderous volume. It is not only a valuable book, but also one which

no doctor, who has the best interests of his patients at heart, can afford not to own and read. It cannot be too highly commended.

We notice the following errors in proof-reading, viz: page 7, line 2, "fu l" for fuel; page 152, line 15, the word "mobility" evidently should read "inability"; page 168, line 6, the word "avoiding" should be omitted, in order to make the statement what the author evidently intended; page 168, line 21, the word "flesh" should be "fresh"; on page 251, the word "ounce" should be substituted for the abbreviation "oz."

HAND-BOOK OF PRACTICAL MEDICINE. *By* DR. HERMAN EICHHORST, *Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Volume II.* DISEASES OF THE DIGESTIVE, URINARY AND SEXUAL APPARATUS. *One hundred and six wood engravings. New York:* WM. WOOD & COMPANY, 1886. *Chicago:* W. T. KEENER.

In these times of active business push and enterprise, the average individual pays but very little attention to the requirements or the preservation of a sound physical constitution.

Any manual, therefore, which shall make us better acquainted with the pathology and treatment of diseases of the digestive system is to be considered as not only reflecting credit on the author, but as proving a decided benefit to the reader.

The volume, the title of which stands at the head of this notice, is a part of the great Hand-book of Practical Medicine, by Dr. Eichhorst, treating of diseases of the urinary and sexual apparatus and forms the June number of *Wood's Library*.

In the present notice it is desired to direct attention espe-

cially to the portion of the book having reference to the digestive apparatus. This consists of the first seven parts of the work.

The first chapter is devoted to diseases of the buccal cavity and salivary glands, the soft palate and the pharynx.

One point that strikes one as being peculiar is the manner in which directions are given regarding the use of medicines, as, for example, on page 16, in the treatment of salivation the author advises the use of atropia sulphate, gr. $\frac{1}{7}$ to ʒ iij water, ½ to one syringeful, subcutaneously.

This method of direction is, in our judgment, to say the least, not wise. It is a well-known fact that hypodermic syringes of this day vary greatly in their calibre, so that what would be a syringeful of one make would barely half fill a syringe of another make.

This indefinite mode of giving directions as to dosage runs through the whole book. As another example of this peculiar method, in the treatment of acute gastritis the author advises the use of salicylate of soda and bicarbonate of soda, equal parts "as much as can be placed on the tip of a knife, every two hours." It may be that in Germany all knives are the same size and the tips of them hold the same quantity of any material, but in this country such directions would hardly be tolerated.

He says, also, that while the bacterium of rheumatic angina has never been discovered, nevertheless, he believes a cold hardly acts in any other way than by favoring the development of bacteria. This statement is a little hard to reconcile with the one a little farther along, in which he says "heredity occasionally plays a part in the etiology."

The chapter on "Dilatation of the Stomach" is especially full concerning its etiology and diagnosis. Coming next to the

functional diseases of the stomach, the author gives a due amount of attention to gastralgia. Regarding the diagnosis of this affection, he says "the recognition of gastralgia is not always easy." It must be differentiated from rheumatism of the abdominal muscles; neuralgia of the lower intercostal nerves; circumscribed peritonitis; biliary colic; intestinal colic; with radiated pains.

The limits of the present notice will not permit our following, in detail, the author through the rather lengthy chapters on diseases of the intestines, of the liver and pancreas. The consideration of diseases of the liver is especially full for a manual, such as the one under consideration, though not comparing, of course, with some of the more elaborate treatises on the diseases of that organ.

The portion of the book devoted to diseases of the kidneys is very complete, taken as a whole. The chapter on diseases of the sexual organs is lacking in many essential particulars. But in view of the great abundance of literature on this class of disorders we doubt not the small space given to the subject in this work was intentional. Taken as a whole, we consider this work one of the best which the enterprising proprietors of *Wood's Library* have issued.

J. L. GRAY.

DRAINAGE FOR HEALTH; OR, EASY LESSONS IN SANITARY SCIENCE. *By* JOSEPH WILSON, M.D. *Second Edition. Pp. 74. Philadelphia:* P. BLAKISTON, SON & CO., *1886.*

In chapter I, on "Land Drainage," and II, on "Drainage of the Farm House and of the Village," the author discusses the questions of drainage, for the farm and farm house, in so simple and complete a manner, that no reader can fail to understand both the principles involved and the details neces-

sary to carry them out. The idea that the drainage of pine forests is due to the peculiar manner in which pine stumps decay is novel, but put in a very convincing manner.

The author claims that a 2-inch circular drain-pipe is the best form to use, and that it is large enough for the main in a piece of land containing 64 acres. In land-drainage the elliptic and oval forms of pipe "have no advantages which compensate for the additional labor of placing them."

The suggestion, that the upper five feet of the wall of a well should be finished in hydraulic cement, and narrowed "so as to leave an opening only large enough for the pump and a man-hole," is excellent.

The chapter on the drainage of cities is suggestive and practical. The author claims that in following the example of Paris and London, we follow in such a way that we fail to take advantage of the most recent experience of those cities.

The form commended as the best for large sewers, is that in use in Paris. "This has a floor of masonry with a deep channel for ordinary drainage, and there is the arch over it of sufficient capacity for the storm-water." "The best form for smaller sewers is the oval, broad above and narrow below. The floor and lower part to be as water-tight as stones and hydraulic cement can make them, the bricks of the upper part to be also laid in cement." "For the smallest sewers glazed earthenware pipes of the circular form are the best, on account of the smoothness of interior surfaces, and the facility of placing them."

The author condemns the old style of water-closet with the tilting pan-valve, and recommends the simple porcelain hopper closet with hard-rubber floating valves.

The remarks about sinks, and the ventilation of sewers are in accord with the most advanced opinion of sanitary engineers.

The digression in the way of an account of the natural history of the common tape-worm, may serve to deepen the impression of the importance of the subject of stercoral pollution of rivers, at least in the minds of medical men.

The author thinks that "a manufactory of paris green, or the like, might dangerously poison a stream of water; but the organic germs of disease, amœba and bacteria, trichina and filaria, bilharzia and strongylus, cysticercus, echinococcus, tape-worm, and the like, could hardly pass through the dyer's vats and live. The danger from manufactories is from the sewage of their villages."

The way in which the subject of plumbing is treated is odd. The conclusions reached are, 1: "All kinds of leaky pipes of moderate size, may be instantly repaired by giving them a coat of paint and a wrapping of twine; if a small piece of pipe is missing, a piece of gum hose will temporarily answer to replace it and complete the circuit." 2: "A very small leak in a water-closet, such as no plumber discovers in a common inspection, may waste as much water as a hundred families can actually use." 3: "About two-thirds of all the water pretended to be used in our cities, is mere waste through defective plumbing, so concealed as not to be found in the ordinary inspections." This last statement is based upon the experience of a naval hospital.

The concluding chapter, "Plea for Board of Health," is an account of the experience of a house owner, living in a block of buildings, who found in dealing with the Board of Health that the members were incompetent men in their position. The author thinks that is often true, and that such boards should be composed only of men who practically understand sanitary science.

The author's literary style is at times very odd and prolix, but the book as a whole is excellent and is accompanied by a good index.

HOW WE TREAT WOUNDS TO-DAY. *A Treatise on the Subject of Antiseptic Surgery which can be understood by beginners.* *By* ROBERT T. MORRIS, M.D. *Second Edition; pp. 165. New York:* G. P. PUTNAM'S SONS. *Chicago:* A. C. MCCLURG & Co., 1886.

This book deserves the enthusiastic reception which it has received. The only important change in the second edition is an attempt to explain the success of Lawson Tait's abdominal surgery without the use of antiseptics. Everyone who reads this attempted explanation will probable form an opinion of his own regarding the attempted explanation. The conclusion of the author's argument is, that while a few men seem able to discard ordinary so-called antiseptic measures without bad results, the great majority cannot do so. He also claims that those who decry careful scientific antisepsis are men who do not understand it.

Complete directions are given for the antiseptic treatment of all classes of wounds, from a simple incised wound to extensive burns and laparotomies, and the steps of the operations are so carefully and fully explained that even beginners can apply them in actual practice. If the principles proclaimed in this little book were rigidly carried out by all surgeons there would be much less inflammation and pus in wounds and fewer deaths both in hospital and private practice. The little volume is destined to do much more good in the world than many a larger one.